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HELMINTHOLOGICAL ABSTRACTS

incorporating
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For the Year 1939.



**IMPERIAL BUREAU OF AGRICULTURAL PARASITOLOGY
(HELMINTHOLOGY)**

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75—Agronomie Coloniale.

a. MALLAMAIRE, A., 1939.—“La pourriture vermiculaire du bananier de Chine causée par *Anguillulina similis* Goodey, en Afrique Occidentale Française.” Année 28 (254), 33-42; (255), 65-75.

(75a) Mallamaire gives an account of a serious disease of the Chinese or dwarf banana, *Musa Cavendishii*, syn. *M. sinensis*, occurring on the Ivory Coast, West Africa, caused by the “burrowing” nematode, *Anguillulina similis*. Symptoms are described in detail and the progress of the disease is traced during the rainy and the dry season. There is a short technical description of the parasite and some account of its biology and host plants. Finally there is a full discussion on methods of control including treatment of shoots in hot water and certain manurial measures which are specially recommended. T.G.

76—Állatorvosi Lapok.

a. FÓRIZS, G., 1939.—“A baromfi orsóférgességének megállapítása és annak gyógyítása ‘Ascaran-tokkal’.” 62 (6), 95-97.

(76a) Fórizs describes a method of concentrating eggs, where potassium hydroxide is used for sedimenting the eggs in faeces, and a mixture of glycerine and potassium hydroxide for floating them to the surface of the centrifuge tubes again. He has used this method in testing the efficiency of Ascaran capsules, containing perchlorethylene, against *Ascaridia lineata* and *Heterakis gallinae*. He reports good results for method and treatment. K.S.

77—American Journal of Clinical Pathology.

a. McNAUGHT, J. B. & PIERCE, G. N., 1939.—“The protective action of alcohol in experimental trichinosis.” 9 (1), 52-57.

(77a) Alcohol if taken simultaneously with trichinous meat by rats reduces the subsequent infection of the muscles by 80%, but has no effect on the maturing and migrating stages. It acts apparently by inhibiting the liberation of the encysted trichinella by the digestive juices. Rats showed the highest eosinophilia during the third week after infection. R.T.L.

78—American Journal of Diseases of Children.

- a. ZOHN, B., 1939.—“Placental transmission of hypersensitivity to *Ascaris lumbricoides* actively induced in the pregnant woman.” 57 (5), 1067-1071.
- b. FAILMEZGER, T. R. & SPALDING, J. E., 1939.—“Diagnosis of trichinosis.” 58 (1), 129-130.

(78a) Zohn has experimental evidence that artificially produced hypersensitivity to *Ascaris lumbricoides* is not transmitted by pregnant women to their offspring. The antigens responsible for human hypersensitivity were not transmitted through the placenta.

P.A.C.

79—American Journal of Hygiene. Section D. Helminthology.

- a. WHITLOCK, J. H. & LEASURE, E. E., 1939.—“Studies upon *Strongylus vulgaris*. I. The incidence of *Strongylus vulgaris* in mid-continental North America and the reaction of the infested ceca.” 29 (3), 83-87.
- b. ROTH, H., 1939.—“Experimental studies on the course of trichina infection in guinea pigs. II. Natural susceptibility of the guinea pig to experimental trichina infection.” 29 (3), 89-104.
- c. CHANDLER, A. C., 1939.—“The effects of number and age of worms on development of primary and secondary infections with *Hymenolepis diminuta* in rats, and an investigation into the true nature of ‘premunition’ in tapeworm infections.” 29 (3), 105-114.
- d. OTTO, G. F. & ABRAMS, E., 1939.—“Quantitative studies on the effect of heat on trichina (*Trichinella spiralis*) larvae.” 29 (3), 115-120.
- e. PHILLIPS, J. H., 1939.—“Studies on the transmission of *Dirofilaria immitis* in Massachusetts.” 29 (3), 121-129.
- f. CAUSEY, O. R., 1939.—“The development of frog filaria larvae, *Foleyella ranae*, in *Aedes* and *Culex* mosquitoes.” 29 (3), 131-132.

(79a) 84% of 174 horses killed at a meat packing establishment in mid-western North America were found to have caecal infections with *Strongylus vulgaris*. In 20% the infection was probably a harmful one. Some observations on the pH in different degrees of infestation are recorded.

R.T.L.

(79b) The guinea-pig has a marked susceptibility to trichinosis and is more reliable as an experimental animal than the rabbit. The minimal lethal dose is 800 larvae. Massive doses of over 12,500 are always fatal during the acute intestinal stage, i.e., in the first week. The comparatively high resistance of rats, mice, etc. is discussed.

R.T.L.

(79c) Chandler has studied the rate of growth of *Hymenolepis diminuta* in young rats, the relative size of infection to length of worms and to super-infection and the effect of the age of primary infection on the establishment and development of secondary infections, the effect of a prior infection eliminated by an anthelmintic on a secondary infection and its effect after manual elimination of the primary infection. He finds that the size of worms at maturity is in inverse ratio to the number of worms harboured, that the size and percentage of establishment of secondary infections is in inverse proportion to the number of primary worms harboured. The establishment of secondary infections is not appreciably affected by a prior infection of 7 days standing with 7 to 10 worms, but is markedly reduced by one in which the primary worms are 14 days or more old. The elimination of the primary

infection by carbon tetrachloride or by mechanical means does not affect the growth of the secondary infection. "Premunition" in tapeworm infection is due to crowding rather than to immunity in the accepted sense. R.T.L.

(79d) Experiments are cited which show that *Trichinella* larvae are not injured by temperatures which could be tolerated by the host, and confirm Ransom & Schwartz in their conclusion that 55°C. is the minimal lethal temperature. The U.S. Federal Government requirement of 137°F. (58.3°C.) in the heat processing of pork is stated to give an adequate margin of safety. R.T.L.

(79e) *Dirofilaria immitis* is endemic in dogs in Boston, Mass. *Stomoxys calcitrans* ingest the microfilariae but it is not proved that they are efficient intermediaries. Fleas are not vectors. Six local mosquitoes transmit the infection and do not develop immunity to re-infection. R.T.L.

(79f) The filaria *Foleyella ranae* in *Rana clamitans* develops to the infective stage in *Aedes aegypti* and *Culex pipiens*. R.T.L.

80—American Journal of Tropical Medicine.

a. FOSTER, A. O. & JOHNSON, C. M., 1939.—"A preliminary note on the identity, life-cycle and pathogenicity of an important nematode parasite of captive monkeys." 19 (3), 265-277.

(80a) A fatal infection in *Cebus capucinus* with *Protospirura muricola* is reported. The parasites were distributed throughout the alimentary canal and viscera. The stomach wall was perforated and a large abscess involved the visceral organs. Twenty-two laboratory monkeys have succumbed and slighter infections have been noted in *Aotus zonalis* and *Ateles duriensis*. The specimens are larger than those commonly present in rodents—their normal hosts. The vector in the present epidemic was the cockroach *Leucophaea maderae* in both adult and nymphal stages. 96% of these vectors were infected. R.T.L.

81—Annals of Applied Biology.

a. POWELL, A. K., 1939.—"Investigations upon the pea strain of *Heterodera schachtii* Schmidt and its rôle in the causation of pea sickness." 26 (3), 572-584.

(81a) Powell describes the symptoms of "pea-sickness" and experiments made to determine the parts played by the nematode *Heterodera schachtii*, the fungus *Aphanomyces euteiches*, and possible unknown factors in causing the disease. He concludes that, in the pea-sick soil studied, both organisms are concerned in producing the disease. *H. schachtii* is the primary factor, but either the eelworm or the fungus alone can cause pathological symptoms. No other factor was discovered. M.T.F.

82—Annals and Magazine of Natural History.

a. BAYLIS, H. A., 1939.—"A new species of *Oxyuris* [Nematoda] from a rhinoceros." Ser. 11, 3 (17), 516-524.

b. BAYLIS, H. A., 1939.—"Records of some parasitic worms from the Belgian Congo." Ser. 11, 3 (18), 625-629.

(82a) *Oxyuris karamoja* n. sp. is described by Baylis from a *Rhinoceros bicornis* in Uganda. It bears a close superficial resemblance to *O. equi*. R.T.L.

(82b) Baylis lists one trematode, 3 cestodes and 18 nematodes which have been provisionally identified in a collection from the Belgian Congo. None are new. *Gongylonema pulchrum* is recorded from an African antelope (*Tragelaphus scriptus*) for the first time. R.T.L.

83—Annals of Tropical Medicine and Parasitology.

a. SOUTHWELL, T. & LAKE, F., 1939.—“On a collection of Cestoda from the Belgian Congo.” 33 (2), 107-123.

(83a) In this second part of their paper [for part 1 see Helm. Abs., Vol. VIII, No. 10a], Southwell & Lake give notes on 14 species of cestodes, 1 acanthocephalan and 2 parasitic arthropods (linguatulids). New forms are *Dilepis irregularis* n. sp. from *Rostratula benghalensis* and *Ophiotaenia congoense* n. sp. from *Boodon olivaceus* and *B. lineatus*. The rostellum of *Echinorhynchotaenia tritesticulata*, seen extended in two specimens from *Anhinga rufa rufa*, is a flat, rigid, very slender chitin-like rod, armed only at the tip with very minute spines. E.M.S.

84—Archiv für Schiffs- und Tropen-Hygiene.

a. ZIEMANN, H., 1939.—“*Filaria persans*. Bemerkungen zu der Arbeit von D. G. Teichler in dieser Zeitschrift 1938, S.421, und zu der Arbeit von H. Molser, in dieser Zeitschrift 1939, H.3.” 43 (8), p. 369.

(84a) Ziemann agrees with Teichler and Molser in calling in question the usual text-book statement that *Acanthocheilonema persans* is of no pathogenic importance. He cites a case described by him in 1905, where orchitis and scrotal swelling were almost certainly due to *A. persans* infection. A.E.F.

85—Archives of Internal Medicine.

a. EVERS, L. B., 1939.—“Manifestations of trichiniasis in the central nervous system: report of a case with larvae in the spinal fluid.” 63 (5), 949-956.

(85a) Evers describes a case of trichinosis showing toxic encephalitis and neuroretinitis, motile larvae being isolated from the spinal fluid after disappearance of the encephalitic signs. The literature relating to neurologic manifestations of trichinosis is briefly reviewed, and lumbar puncture advised in all suspected cases. V.D.V.S.

86—Archives of Pathology.

a. SAWITZ, W., 1939.—“*Trichinella spiralis*. I. Incidence of infection in man, dogs and cats in the New Orleans area as determined in postmortem examinations.” 28 (1), 11-21.

(86a) Sawitz has found the following incidence rates for *Trichinella spiralis* infection in New Orleans: of 400 unselected human autopsies, 6%; of 300 dogs, 1.3%; of 90 cats, 10%. The human data are analysed by age, sex, race and occupation, but they all relate to the group of low economic

status and therefore do not represent an unbiased cross-section of the population. Of the 24 human cases diagnosed by artificial digestion of diaphragm and pectoral muscle, only 2 were positive by trichinoscopic methods. Intensity of larvae per gramme of muscle was higher for diaphragm than for pectoral muscle.

B.G.P.

87—Archivio Italiano di Scienze Mediche Coloniali e di Parassitologia.

- a. TOBIA, A., 1939.—“Considerazioni diagnostiche su alcuni casi di bilharziosi vescicale.” 20 (3), 145-159.
- b. SCHIAVI, C., 1939.—“La bilharziosi vescicale nel Fezzan; note di profilassi, clinica e terapia.” 20 (4), 205-211.
- c. CHIEFFI, S., 1939.—“Osservazioni su di un caso di bilharziosi intestinale.” 20 (4), 222-235.

88—Archivos Uruguayos de Medicina, Cirugía y Especialidades.

- a. CHIFFLET, A., 1939.—“Equinococosis preperitoneal.” 14 (2), 177-188.
- b. PRAT, D. & LÓPEZ-GUTIÉRREZ, J. C., 1939.—“Hidatidosis primitiva de la logia del psoas ilíaco derecho. (Quiste hidático del psoas ilíaco).” 14 (6), 576-585.
- c. ANDREÓN, E., 1939.—“A propósito del abordaje de los quistes centrales del hígado.” 14 (6), 606-614.

89—Australian Veterinary Journal.

- a. GORDON, H. McL., 1939.—“Anthelmintic efficiency against immature *Haemonchus contortus*.” 15 (2), 57-66.
- b. PULLAR, E. M., 1939.—“The life cycle of *Moniezia expansa*.” 15 (2), 71-74.

(89a) Gordon has studied the efficiency of a number of standard *Haemonchus* remedies against the immature worms. He finds that in all cases treatment is not so effective as against the adult *H. contortus*. The most helpful solutions were mixtures of copper sulphate and sodium arsenite, and copper sulphate and nicotine sulphate. He points out the necessity for frequent dosage against immature worms in a severe outbreak of haemonchosis, recommending treatment at 10 to 14 day intervals. K.S.

(89b) In this annotation Pullar briefly recounts the recent work of Stunkard, confirmed by Stoll, on the life-cycle of *Moniezia* in oribatid mites. Some of the earlier, fruitless experiments are also touched on. B.G.P.

90—Berliner und Münchener Tierärztliche Wochenschrift.

- a. HAGEN, K., 1939.—“Zur Bekämpfung der *Taenia saginata*.” 1939 (25), 398-399.
- b. SCHMIDT, J., 1939.—“Ueber das Vorkommen des Leberegels beim deutschen Hochwild.” 1939 (26), 405-406.

(90a) Hagen stresses the importance of greater co-operation between doctors and veterinary surgeons for the control of *Taenia saginata*. He further recommends that no tapeworm remedies should be issued to private

individuals, and that all curative treatments should take place in hospital. In this way he hopes to prevent the spread of the disease by adequate destruction of the expelled worms, and also to be able to estimate the number of infections in the Reich.

K.S.

(90b) Schmidt points out that Lütje, in discussing fascioliasis in roe-deer [see Helm. Abs., Vol. VII, No. 323c], apparently overlooked the important dissertation by Honigmann (1925) who examined more than 43,000 deer over a period of 20 years. The latter's examinations were made as for meat inspection and his data therefore included fluke only when the liver was fit for condemnation. Comprehensive examination over 2 years, however, gave for 956 red deer 2.7%, for 1,536 fallow deer 3.4%, for 777 roe-deer 10.4%, and for 1,156 wild boar 3.9%. The argument that game animals are of no parasitological importance owing to their free range is refuted by the existence of the herding instinct and of fixed feeding and resting grounds. If one deer in 22 is infected with fluke then fascioliasis in game is worthy of the veterinarian's interest.

B.G.P.

91—Blumen- und Pflanzenbau.

a. GOFFART, H., 1939.—“Aelchenkrankheiten der Hortensien.” 43 (22), [Reprint 3 pp.]

(91a) Goffart describes the symptoms shown by hortensias (*Hydrangea* spp.) when the shoots are attacked by the stem eelworm, *Anguillulina dipsaci*. He states that the disease is already known in Switzerland, France, Holland, Denmark and Germany and that the varieties Maréchal Foch and Niedersachsen are very susceptible, Madame Mouillère, La Marne, Le Cygne and Triomphe susceptible, and Goliath and De Vibraye only slightly susceptible. He discusses various remedial measures which might be used in attempting to control the disease.

T.G.

92—Boletim Biológico.

a. TRAVASSOS, L., 1939.—“Contribuição ao conhecimento de alguns trematódeos de Mato Grosso. Nudacotylinae Barker, 1916.” 4 (2), 160-167.

b. LENT, H. & FREITAS, J. F. TEIXEIRA DE, 1939.—“Novo nematodeo parasito do pato doméstico (Spiruroidea).” 4 (2), 177-180.

c. TRAVASSOS, L., FREITAS, J. F. TEIXEIRA DE & LENT, H., 1939.—“Relatório da excursão científica do Instituto Oswaldo Cruz realizada na zona da Estrada de Ferro Noroeste do Brasil, em outubro de 1938. II. Pesquisas helmintológicas.” 4 (2), 221-249.

(92a) Travassos shows that the terms *Nudacotylinae* and *Nudocotyle* as used by Harrah, 1922 are due to a typographical error, and should be dropped as synonyms of *Nudacotylinae* and *Nudacotyle* respectively, both from Barker, 1916. From the small intestine of *Hydrochoerus capybara* are described *Nudacotyle valdevaginatus* Trav., 1922 and *N. tertius* n. sp. (which latter is very near the type *N. novicia*), and *Neocotyle neocotyle* Trav., 1922.

E.M.S.

(92b) Freitas & Lent describe and figure *Parhadjelia neglecta* n. g., n. sp. from the proventricular submucosa of *Anas boschas domestica* in Rio. The

new genus, in the Schistorophinae, differs from *Hadjelia* in cephalic details and in the post-oesophageal position of the vulva. B.G.P.

(92c) Travassos and his co-workers report on the 410 helminths found in 388 vertebrates collected during a scientific expedition to the north-east of Brazil. There are brief notes on the helminths found, in a systematic list of hosts, but no detailed descriptions. B.G.P.

93—Brasil-Medico.

a. VERSIANI, W. & RENAULT, L., 1939.—“Parasitismo humano pela *Hymenolepis diminuta* (Rudolphi, 1819).” 53 (16), 453-454.

94—British Journal of Radiology.

*a. RAGHEB, M., 1939.—“Radiological manifestations in bilharziasis.” 12, pp. 21-27.

95—British Medical Journal.

a. BARNETT, L., 1939.—“Hydatid disease: errors in teaching and practice.” Year 1939, 2 (4106), 593-599.

(95a) Apart from an account of some elementary errors in the terminology, prophylaxis and descriptive morphology of hydatids, Barnett's article is mainly concerned with errors in diagnosis and in surgical procedure.

B.G.P.

96—Bulletin de l'Académie de Médecine.

a. BRUMPT, E. & LAVIER, G., 1939.—“Prophylaxie de la distomatose hépatique humaine due à la grande douve.” 121 (23), 843-846.

(96a) Brumpt & Lavier consider that man is no more resistant to *Fasciola hepatica* infection than the ruminants and that the relative scarcity of diagnosed human cases is largely due to the much slighter exposure to infection. Most human cases are traceable to the eating of watercress, and it rarely happens that cress beds are exposed to cercarial contamination. Thus, it is shown that the cress beds supplying Paris are remote from sheep-rearing districts and are watered from springs. *Fasciola* infection is more likely to follow the eating of wild cress. B.G.P.

97—Bulletin de l'Académie de Médecine de Roumanie.

a. NITZULESCO, V., MANOILESCO, C. & POPOVICI, R., 1939.—“Sur la recherche des oeufs d'helminthes par la méthode de Willis-Hung.” 7 (2), 86-99.
b. NITZULESCO, V. & NITZULESCO, G., 1939.—“Contributions à l'étude de l'helminthiase intestinale dans la région de Jassy.” 7 (2), 100-103.

(97a) Nitzulesco and his co-workers point out that techniques for concentrating helminth ova by “chemical” methods, such as those of Telemann (HCl-ether) or Rivas (acetic-ether), do not possess the superiority often claimed for them when used for eggs of *Ascaris*, *Enterobius* and

* Original not available for checking or abstracting.

Hymenolepis. They quote results which show that for these eggs a better result is obtained by Hung's modification of the Willis salt-flotation method (using floating coverslips instead of slides). B.G.P.

(97b) Reporting on 1,200 faecal examinations for intestinal helminthiasis at the Jassy laboratory in the years 1934-38, the Nitzulescos call attention to the high incidence of *Trichuris* (34% of persons examined, or 78% of all positives). Eggs of *Dicrocoelium* in 41 cases and of *Fasciola* in one case are ascribable in most (if not all) cases to a dietary rather than to a parasitic origin. The low incidence of *Diphyllobothrium* (0.64%) shows that this region has unjustly been stressed as a focus of this tapeworm. B.G.P.

98—Bulletin de l'Académie Vétérinaire de France.

a. DESCAZEUX, J., 1939.—“Stérilisation biologique de crottins parasités par des larves de nématodes.” **12** (4), 136-139.

(98a) Descazeaux has cultivated the two nematode-ensnaring fungi, *Arthrobotrys oligospora* and *Dactylella bembicodes*, on a suitable gelatine medium in Petri dishes and when the cultures are well grown, i.e., after 15 to 20 days, has used them as covers to place over cultures of horse droppings containing developing larvae of horse strongyles in glass dishes. The larvae climbing up from these cultures induce the formation of the entrapping organs on the fungal mycelium and in due course all the larvae are ensnared and destroyed. A species of *Rhabditis* occurring in the droppings was also completely destroyed. T.G.

99—Bulletins et Mémoires de la Société Médicale des Hôpitaux de Paris.

a. LAVIER, G., BARIÉTY, M., CAROLI, J. & BOULANGER, P., 1939.—“Distomatose hépatique et syndrome de Loeffler.” **55** (15), 739-745.

100—Bulletin de la Société de Chimie Biologique.

a. SMORODINZEW, I. A. & BÉBÉCHINE, K. V., 1939.—“La teneur en lipoides dans le corps du *Taeniarhynchus saginatus*.” **21** (3), 478-482.

(100a) Smorodinzew & Bébéchine have found that the percentages of cholesterol and phosphatides in the whole body of *Taeniarhynchus saginatus* are about the same as in most mammalian organs. The I_2 values of the fats extracted from the parasite were, however, much higher than those of fats from mammalian organs. This indicated a correspondingly higher content of unsaturated fatty acids, which would be toxic when released into the blood of the host. R.H.H.

101—Bulletin de la Société de Pathologie Exotique.

a. DESCHIENS, R., 1939.—“Capture et destruction de larves de strongylidés du singe et du bœuf par des hyphomycètes.” **32** (4), 394-398.
 b. THIODET, 1939.—“Sur trois cas d'ankylostomose observés en Algérie. Infestation simple. Association avec le paludisme.” **32** (4), 437-441.
 c. FLORENCE, R., 1939.—“Existence chez les bovins de Madagascar de *Eurytrema pancreaticum*.” **32** (4), 446-447.

- d. BUCK, G., 1939.—“Un parasite des poules nouveau pour Madagascar : *Tetrameres fissispina*.” 32 (4), 447-448.
- e. DESCAZEUX, J., 1939.—“Action des champignons hyphomycètes prédateurs sur les larves de certains nématodes parasites des ruminants.” 32 (5), 457-459.
- f. DESCHIENS, R., 1939.—“Considérations relatives à la destruction des larves de nématodes parasites par des hyphomycètes prédateurs.” 32 (5), 459-464.
- g. JOYEUX, C., SAUTET, J. & CABASSU, H., 1939.—“Recherches sur les helminthiases du lapin, notamment sur la bronchopneumonie vermineuse.” 32 (5), 496-502.
- h. BERNARD, L., ALCAY, L., GUISONI, F. & MANYA, 1939.—“Note sur un cas de bilharziase urinaire algérienne.” 32 (6), 606-607.
- i. ALCAY, L., MARILL, F., MUSSO, J. & CASTRYCK, R., 1939.—“Découverte d'un foyer de bilharziase vésicale autochtone en Algérie.” 32 (6), 608-612.
- j. POPESCU-BARAN, M., 1939.—“Nouvelles recherches sur l'*Onchocerca bovis* chez les bovidés de France. Localisations synoviales.” 32 (6), 621-625.
- k. DOLLFUS, R., 1939.—“Cestodes du genre *Raillietina* récemment observés chez l'homme en Équateur.” 32 (6), 660-665.
- l. DESCHIENS, R., 1939.—“Conditions de capture des larves de dictyocaules par des hyphomycètes prédateurs.” 32 (7), 698-700.

(101a) Deschiens reports on the ability of the two nematode-ensnaring fungi, *Dactylella bembicodes* and *Arthrobotrys oligospora*, to capture and destroy the larvae of *Oesophagostomum bifurcum* from an ape and those of an unnamed strongyle reared from eggs found in the faeces of a cow. The larvae of both forms were broader than the snares of both fungi and yet were successfully captured and destroyed. In a final section the author suggests methods by which the spores might be disseminated so as to assist in the biological control of parasitic nematodes during their larval development. T.G.

(101e) Descazeaux shows that the nematode-trapping fungi, *Arthrobotrys oligospora* and *Dactylella bembicodes*, can capture and destroy the free-living larvae of various trichostrongylid nematodes parasitic in the gut of sheep and oxen. When grown on various gelatine media and the nematode larvae are added, the special snares are rapidly and plentifully developed. The fungi also grow well in bran water or in washings from droppings. Spores sown on the surface of small dishes containing larvae collected from faecal cultures germinate readily, producing hyphae richly supplied with snares so that ultimately all the larvae in a dish were destroyed. The author envisages the employment of predatory fungi under natural conditions wherever faecal matter containing larvae of parasitic nematodes occurs. T.G.

(101f) Deschiens discusses the conditions to be satisfied in attempts to utilize the nematode-entrapping fungi, *Arthrobotrys oligospora* and *Dactylella bembicodes*, for the control of the larval stages of animal-parasitic nematodes in nature. Various culture media for the propagation of the fungi are discussed and it is shown that they grow well and produce an abundance of spores on media consisting of moist sterilized hay or oat straw. By chopping up and powdering such spore containing media one is provided with a ready means of spreading the fungi over turf and other natural surfaces. Proof is given that the fungi grow well on pastures and produce mycelia in

the grass bottoms and on the soil surface. They do not appear to be injurious to the natural flora nor harmful to man and animals. T.G.

(101g) Joyeux and his co-workers describe an epizootic of bronchopneumonia, due to *Protostrongylus commutatus*, among wild rabbits in the south-east of France. They discuss morphological features differentiating this lungworm from *P. rufescens*, such as the minute chitinous fibrillations which fringe the medial sides of the spicules and which are apparently absent in the latter species. They also outline the life-history, in which they have experimentally implicated as intermediaries: *Helix aspersa*, *H. pisana* and *H. ilicetorum*, only the latter tolerating the larvae without severe and effective tissue-reactions. They briefly mention other helminths also found in the same rabbits. In a short discussion Deschiens suggests that predatory fungi might be tried against lungworm larvae. B.G.P.

(101j) In an examination of 60 legs of beef, Popescu-Baran found only 4 free from infection with *Onchocerca bovis*. The parasite was found in the tibiotarsal tendons and surrounding connective tissues, and also around the stifle. In some cases the synovial membrane was itself involved, and even perforated. Microfilariae were demonstrated in the synovia by diluting it with an equal volume of physiological saline and centrifuging. It is thus possible that some bovine cases of synovitis are of parasitic origin. B.G.P.

(101k) In 1938 León reported 16 cases of human infection with 5 species of *Raillietina* in Ecuador [see Helm. Abs., Vol. VII, No. 398f]. Dollfus has now examined this material. With reference to *R. (Raillietina) quittensis* León, 1935, Dollfus remarks that "The numerous fragments of strobila would have been attributed without hesitation to several specimens" if León had not specified them as part of a single worm 10 to 12 metres long. The remaining material falls into the following 4 new species: *R. (R.) luisaleoni*, *R. (R.) brumpti*, *R. (R.) equatoriensis*, and *R. (Fuhrmannetta) leoni*, which are described. B.G.P.

(101l) Deschiens shows that the nematode-ensnaring fungi, *Dactyella bembicodes* and *Arthrobotrys oligospora*, when grown under suitable cultural conditions, can entrap and destroy the larvae, especially those in the infective stage, of the lungworm *Dictyocaulus filaria*. T.G.

102—Bulletin de la Société Zoologique de France.

a. JOYEUX, C. & BAER, J. G., 1939.—"Sur quelques cestodes des Charadriiformes." 64 (3), 171-187.

(102a) Joyeux & Baer clear up a number of debated points in the cestodes of the Charadriiformes. Descriptions are given of *Progynotaenia odhneri*, *Amoebotaenia lumbrixi*, *Choanotaenia arctica*, *Ch. joyeuxi*, *Ch. cayennensis* var. *scolopacis* n. var. and *Ch. triganciensis* n. sp., *Haploparaxis parafilum* and *Hymenolepis annandalei* var. *longosacco* n. var. A tabular statement sets out the characters of the 13 known species of *Choanotaenia*. R.T.L.

103—Canadian Field Naturalist.

a. CANNON, D. G., 1939.—"On the parasites of the small intestine of the European starling (*Sturnus vulgaris*) in Quebec." 53 (3), 40-42.

(103a) Cannon has found the following helminths in *Sturnus vulgaris* in Quebec: *Hymenolepis farciminosa*, *Choanotaenia musculosa* and *Capillaria columbae* var. *sturni*.

P.A.C.

104—Canadian Journal of Comparative Medicine.

- a. CAMERON, T. W. M., 1939.—“Parasitism and its importance.” 3 (7), 175-181.
- b. SWALES, W. E., 1939.—“Tests of phenothiazine, a highly efficient anthelmintic. On a means of administration and the indicated uses for the control of parasitic diseases of sheep.” 3 (7), 188-194.

(104b) Experiments on sheep 2 years old and over show that Phenothiazine in doses of 0.3 to 0.5 g. per lb. body-weight is of exceptional value as an anthelmintic for the common nematode parasites of sheep. An improved method of administration in the form of compressed tablets is described.

J.W.G.L.

105—Canadian Journal of Research. Section C. Botanical Sciences.

- a. HASTINGS, R. J., BOSHER, J. E. & NEWTON, W., 1939.—“Bulb nematode control in iris by hot water.” 17 (5), 144-146.

(105a) Hastings, Bosher & Newton have found that infections of *Anguillulina dipsaci* in iris bulbs can be successfully controlled by treatment in hot water at 110° to 112°F. for one hour. The treatment, to be effective, must be carried out early in the resting stage of the bulb and the safe period is between July 26th and August 9th. Later than this there is increasing risk of injury to the bulbs.

T.G.

106—Canadian Journal of Research. Section D. Zoological Sciences.

- a. PARRELL, I. W., 1939.—“Studies on the bionomics and control of the bursate nematodes of horses and sheep. VI. On the lethal effects of some nitrogenous chemicals on the free-living stages of sclerostomes.” 17 (3), 68-86.

(106a) Parnell reports on the lethal effect of a further series of nitrogenous chemicals on sclerostome eggs and free-living stages contained in cultures of fresh horse faeces. In order of effectiveness these were:—Chloropicrin, aniline, calcium cyanamide, pyridine, ammonium carbonate, ammonium chloride, cupric nitrate, ammonium nitrate, ammonium sulphide and saponin. Chloropicrin was the most lethal chemical yet tested, 2,300 times its own weight of fresh faeces being sterilized, but its dangerous nature greatly limits its use. Saponin, on the other hand, had no lethal effect on sclerostomes.

J.W.G.L.

107—Canadian Public Health Journal.

- a. MCCLURE, W. B. & SPARKS, W. E. L., 1939.—“Ankylostomiasis in a Chinese patient.” 30 (4), 207-208.

108—Ceylon Journal of Science. Section D. Medical Science.

a. NICHOLLS, L. & GUNAWARDANA, S. A., 1939.—“The destruction of helminth ova in night soil by composting.” 5 (1), [Reprint 8 pp.]

(108a) The disposal of night soil by composting brings about a rapid destruction of helminth ova. The ova and larvae of *Necator americanus* are destroyed when heated for 24 hours to 40°C., for 12 hours to 42°C. and for 2 hours to 45°C. All parts of the compost heaps reach a temperature of at least 50°C. for many hours and the repeated turning of the compost heaps subjects the contents to a temperature of over 60°C. R.T.L.

109—Chinese Medical Journal.

a. TANG, C. C., 1939.—“Trichinella infection in rats in Fukien.” 55 (6), 537-541.

b. HSÜ, H. F., 1939.—“Studies on certain problems of *Clonorchis sinensis*. VII. Further advance in the study of the life-cycle of *Clonorchis sinensis*.” 55 (6), 542-545.

c. WU, L. S., 1939.—“*Taenia* infection. Report based on stool examinations of 56,286 patients in the Peiping Union Medical College.” 55 (6), 561-565.

(109a) Tang reports the finding by trichinoscopy of *Trichinella* larvae in 3 brown rats, among 136 examined, collected in Sa-Hsien in the interior of Fukien province by the bubonic plague prevention unit. 114 rats from the Foochow area were negative. This is the first *Trichinella* record from Fukien since Manson's Amoy case. B.G.P.

(109b) Although the 1st and 2nd intermediaries of *Clonorchis* have long been known, it is only now for the first time that Hsü has experimentally completed the life-cycle by tracing the development from cercaria to metacercaria. A *Pseudorasbora parva*, laboratory-bred in snail-free aquaria, was exposed to cercariae from an artificially infected, laboratory-bred *Bithynia fuchsiana*. 351 cysts were recovered 6 months later, morphologically identical with those described by Hsü & Khaw (1936). Cysts were very numerous in the flesh around the posterior vertebrae, but were absent from abdominal organs. B.G.P.

(109c) Of 56,286 Peiping hospital patients, 0.6% had *Taenia* ova in the faeces. Wu states that, of the 337 positives, 156 were *T. saginata* and 28 *T. solium*: the rest were not differentiated. Of the 28 *T. solium* cases, 7 also harboured *Cysticercus cellulosae*. Incidence of *Taenia* in general was higher in males than in females, and in Chinese than in foreigners. By occupation, it was highest in students and lowest in farmers. B.G.P.

110—Comptes Rendus des Séances de la Société de Biologie.

a. ROMAN, E., 1939.—“Biologie d'*Ascaris lumbricoides* jeune; infestation pulmonaire de rongeurs; réinfestation de l'homme parasité.” 130 (12), 1168-1170.

(110a) Roman has established the fact that infective larvae of *Ascaris lumbricoides* can hatch and complete their development to the pulmonary stage in the field mouse as well as in the white mouse and guinea-pig. Further, the presence of adult ascarids in the intestine of man in no way prevents or hinders the development of a new infection of the same species. P.A.C.

111—Cornell Veterinarian.

a. BAKER, D. W., 1939.—“A new system of anthelmintic control for gastro-intestinal parasites of ruminants.” *29* (2), 192-197.

(111a) Baker reports favourably on the use of equal parts of tetrachlorethylene and mineral oil, at a dose rate of 0.2 c.c. per pound body-weight, for the treatment of parasitic gastro-enteritis in calves. Tables are given showing the decrease in egg counts over a period of several weeks for 8 calves. A great improvement of condition of the animals was also noticed. The mixture was found to be more efficacious for the control of the strongyloid type of worms than for whipworms.

K.S.

112—Cyprus Agricultural Journal.

a. GAMBLER, R. M., 1939.—“A list of parasites recorded from the domestic and wild animals and birds of Cyprus.” *34* (1), 29-32.

(112a) In this list compiled by Gambles over 80 species of helminths are recorded, as well as insect and protozoan parasites.

D.O.M.

113—Deutsche Tierärztliche Wochenschrift.

a. OLAFSSON, A., 1939.—“Ist die Ausscheidung von Spulwurmeiern im Kot der befallenen Füchse zeitweilig unterbrochen?” *47* (26), 408-409.
 b. SCHMID, F., 1939.—“Beitrag zur Kenntnis der kleinen Lungenwürmer (Protostrongylidae Leiper 1926) von Schaf und Wild.” *47* (27), 429-430.
 c. JACOB, E., 1939.—“Parasiten beim Iltis aus freier Wildbahn.” *47* (30), 475-477.

(113a) Olafsson examined the faeces of 60 foxes and found that between December 15th 1938 and January 20th 1939 only 21.4% of those infected with ascarids and 60% of those infected with lungworms showed eggs in their faeces. This he interprets as being due to a temporary interruption in egg-laying. He suggests that further research into the matter might be profitable.

D.F.

(113b) Discussing the debated question of the specific identity of small lungworms, on grounds of morphology, host-specificity and host reactions, Schmid concludes that the following must be recognized: *Protostrongylus rufescens* in bronchi, *P. nigrescens* in blackish nodules in lung tissue, *Muellerius capillaris* in whitish nodules in lung tissue, all in sheep; *P. commutatus* in the bronchi of hares and rabbits; *P. capreoli* Stroh & Schmid, 1938, in or near greyish nodules in the lung tissue of roe-deer; *P. sagittatus* in reddish nodules in the lung tissue of red deer.

B.G.P.

(113c) Jacob reports the following helminths from 30 polecats captured in northern Germany: *Pseudostongylus putorius* in the lungs (apparently the first continental record; Cameron's original material was British), *Capillaria putorii* in the stomach, *Molineus europaeus*, *Euparyphium melis* and *Taenia pisiformis* in the intestine, and metacercariae (Linstow's “*Distomum putorii*”) from oesophageal connective tissue. In the faeces of one young polecat were found ascarid eggs, although no ascarid is known from this host.

B.G.P.

114—Gaceta Medica de Caracas.

- a. BARNOLA DUXANS, J., 1939.—“La reacción de Takata-Ara.” 46 (1), 4-9; (3), 41-42.
- b. ITURBE, J., 1939.—“Huéspedes invertebrados del *Schistosoma mansoni* en el Valle de Caracas y algunos otros lugares de Venezuela.” 46 (6), 84-87.
- c. RAFAEL RISQUEZ, J., 1939.—“Notas para la historia de la bilharziosis mansoni en Venezuela.” 46 (6), 88-91.

(114a) Barnola Duxans concludes a discussion on the technique and mechanism of the Takata-Ara reaction (which is thought to indicate a dis-equilibrium of the serum-proteins in the direction of an excess of tryptophane, and which is frequently a sign of liver cirrhosis) by tabulating the reactions of 57 Bilharzia cases of varying severity. Results show that the intensity of the reaction is proportional to the severity of the cirrhosis and that even latent cases often react.

B.G.P.

(114b) Iturbe briefly discusses the two intermediaries of *Schistosoma mansoni* in Venezuela, *Australorbis glabratus* and *A. olivaceus*, and their local distribution. Thus, the former is plentiful in the alluvial plains of the river Guayre, but scarce in the cooler streams descending from the mountains.

B.G.P.

(114c) Risquez briefly traces the history of schistosomiasis in Venezuela, from the earliest reference to it by Víctor Raúl Soto in 1906 down to the present day. He appends a short list of Venezuelan references supplementary to those in his 1918 monograph.

B.G.P.

115—Gazette Hebdomadaire des Sciences Médicales de Bordeaux.

- a. LABORDE, A., 1939.—“Du rôle pathogène de certains parasites intestinaux occultes réputés inoffensifs. Des complications médico-chirurgicales de ces parasitoses.” 60 (19), 292-298.
- b. MASSÉ, BLANCHOT & POULIN, 1939.—“Un cas de kyste hydatique du rein.” 60 (24), 377-378.
- c. VERDELET, 1939.—“Kyste hydatique du sein.” 60 (28), p. 437.

(115a) Of 100 French entero-colitis patients, excluding those with any sort of colonial or tropical contact, Laborde found that 42 were infested with parasites. In 11 cases, mostly from the south-west of France, the parasite was *Trichuris*; in the others, protozoa. Discussing medical and surgical complications of parasitosis, Laborde concludes that these parasites are far from being the harmless commensals they are often taken to be.

B.G.P.

116—Geneeskundig Tijdschrift voor Nederlandsch-Indië.

- a. MEYERS, F. M. & KOUWENAAR, W., 1939.—“Over hypereosinophilie en over een merkwaardigen vorm van filariasis.” 79 (14), 853-873.
- b. BONNE, C., 1939.—“Over hypereosinophilie in de milt gecombineerd met een filaria-infectie.” 79 (14), 874-876.
- c. BEUKERING, J. A. VAN, 1939.—“Filarialarve in een *Anopheles ludlowi*.” 79 (18), p. 1114.
- d. SANDGROUND, J. H. & PRAWIROHARDJO, S., 1939.—“On the occurrence of human echinostomiasis in Java. Preliminary report.” 79 (24), 1497-1503.

(116a) Meyers & Kouwenaar discuss in detail 7 cases of filariasis, all Javanese, noteworthy for high and persistent eosinophilia (up to 77%), absence of peripheral microfilariae, presence of swollen groin glands containing eosinophilic abscesses and what appeared in sections to be microfilariae. Other symptoms of filariasis were absent and the cases were all from a non-endemic area. B.G.P.

(116c) Beukering records a single filarial larva in a section of the thorax of an *Anopheles ludlowi*, which is known to be a carrier of *F. bancrofti* in India. B.G.P.

(116d) *Echinostoma ilocanum* has been found in one case in a native of Batam in West Java. The worms ranged from 4 to 8 mm. in length and the number of spines on the circumoral collar varied from 41 to 51 in well preserved specimens. R.T.L.

117—Giornale di Batteriologia e Immunologia.

a. CHIAROTTI, C., 1939.—“Descrizione di un focolaio rurale di anchilostomiasi.” *23* (1), 82-87.

118—Hospital. Rio de Janeiro.

a. MARTINS, A. V. & VERSIANI, W., 1939.—“Plano de combate á ‘Schistosomose mansoni’ em Belo-Horizonte.” *15* (3), 563-570.

(118a) Intestinal schistosomiasis ranks second only to ancylostomiasis in the state of Minas Gerais (Brazil), and appears to be increasing in incidence. Martins & Versiani show that a sudden increase in Belo Horizonte is associated with the completion of a dam impounding a lake now used for swimming; they propose control measures such as the treatment of carriers, protection of the lake from faecal contamination, and chemical and biological control of the intermediary, *Australorbis glabratus*. B.G.P.

119—Indian Journal of Veterinary Science and Animal Husbandry.

a. SRIVASTAVA, H. D., 1939.—“Two new parasites of the genus *Aponurus* Looss, 1907 (sub-family—Lecithasterinae).” *9* (1), 31-35.

b. RAO, M. A. N., 1939.—“*Arthrocephalus gambiensis* Ortlepp, 1925.” *9* (1), 37-38.

c. SRIVASTAVA, H. D., 1939.—“The morphology and systematic relationship of two new distomes of the family Haplosporchiidae Poche, 1926, from Indian marine food-fishes.” *9* (1), 67-71.

d. SRIVASTAVA, H. D., 1939.—“A new parasite of the genus *Hysteroecitha* Linton, 1910.” *9* (1), 73-76.

e. SRIVASTAVA, H. D., 1939.—“A new parasite—*Stomachicola secundus*—of the sub-family Dinurinae Looss, 1907.” *9* (1), 77-79.

f. CAWSTON, F. G., 1939.—“The sites of adult schistosomes in relation to their life-cycle.” *9* (1), 87-89.

g. SRIVASTAVA, H. D., 1939.—“New fellodistomids (Trematoda) from Indian hosts. Part II. Three new parasites of the sub-family Discogasteroidinae from Indian marine food-fishes.” *9* (1), 91-95.

h. SRIVASTAVA, H. D., 1939.—“The morphology and systematic relationship of a new genus of digenetic trematode belonging to the family Monadhelminidae (Dollfus, 1937).” *9* (1), 97-99.

- i. SRIVASTAVA, H. D., 1939.—“Studies on the family Heterophyidae Odhner, 1914. Part III. Parasites belonging to a new subfamily Polyorchitreminae from an Indian fresh-water fish.” *9* (2), 165-168.
- j. SRIVASTAVA, H. D., 1939.—“The morphology and systematic relationships of a new parasite, *Waretrema piscicola*, gen. et sp. nov., referable to a new family—Waretrematidae—of digenetic trematodes.” *9* (2), 169-172.
- k. RAO, M. A. N., 1939.—“*Gyalocephalus capitatus* Looss, 1900.” *9* (2), 179-180.
- l. SRIVASTAVA, H. D., 1939.—“A study of the life-history of a common tapeworm, *Mesocestoides lineatus*, of Indian dogs and cats.” *9* (2), 187-190.
- m. SRIVASTAVA, H. D., 1939.—“An unrecorded nematode parasite of the Indian domestic pigeon with remarks on ornithostrongylosis.” *9* (2), 191-194.
- n. SRIVASTAVA, H. D., 1939.—“The morphology and systematic relationship of a new parasite—*Mehrailla ovoaudatum*, gen. et sp. nov.,—(family Acanthostomidae) from an Indian marine food fish.” *9* (2), 209-212.
- o. SRIVASTAVA, H. D., 1939.—“Three new parasites of the genus *Acanthocolpus* Luhe, 1906 (family—Acanthocolpidae).” *9* (2), 213-216.
- p. SRIVASTAVA, H. D., 1939.—“Occurrence of liverfluke, *Fasciola gigantica*, in the lungs of goats.” *9* (2), 223-224.
- q. SRIVASTAVA, H. D., 1939.—“Studies on the helminth parasites of Indian poultry. Part III. The occurrence of two spirurid stomach worms in fowls.” *9* (2), 225-227.
- r. SRIVASTAVA, H. D., 1939.—“Two new trematodes of the family Monorchidae Odhner, 1911, from Indian marine food fishes.” *9* (2), 233-236.

(119a) In a key for the 7 species of the genus *Aponurus* Looss, 1907, two new species are included. These are named *A. breviformis* n. sp. and *A. bengalensis* n. sp., both collected from the Indian fish *Therapon puta*. The species *A. bowersi* and *A. vitellograndis* are excluded, while the description of *A. tschugunovi* was not available to the author.

R.T.L.

(119b) The hookworm *Arthrocephalus gambiensis* Ortlepp, 1925 previously found in the African mongoose is now reported from the mongoose *Herpestes mungo* from Madras.

R.T.L.

(119c) The family Haplosplanchnidae contains only a single species of the rather unusual digenetic trematode genus *Haplosplanchnus*. Srivastava adds a second species *H. purii* and a new genus and species *Laruea caudatum* both from *Mugil waigiensis*. *Laruea* differs from the type genus in the peculiar shape of the body and of the acetabulum and in the position of its gonads and vitellaria.

R.T.L.

(119d) A fifth species is added to the genus *Hysterolecitha*, viz., *H. lintoni* n. sp. from the Indian marine fish *Arius dussumieri*.

R.T.L.

(119e) A second species is added to the genus *Stomachicola*, viz., *S. secundus* n. sp. from the Indian fish *Hemirhamphus limbatus*.

R.T.L.

(119f) Stock is more likely to be affected by nasal schistosomiasis where a water supply is so limited that watering of the animals is largely from troughs. Widespread nasal schistosomiasis in Indian cattle suggests that the expulsion of ova in nasal secretions affords the means of access to a suitable intermediary.

R.T.L.

(119g) Three new additions to the Discogasteroidinae are made, viz., *Yamagutia lateroporus* n. g., n. sp. from *Chatoessus nasus* from Karachi, *Discogasteroides indicus* n. sp. and *D. caranxi* n. sp. both from *Caranx kalla*

caught in the Bay of Bengal. *Yamagutia* differs from *Discogasteroides* in the absence of cuticular spines, size of suckers, length of oesophagus, presence of an oesophageal bulb, position of vitellaria, receptaculum seminis and of the genital pore and the course of the cirrus sac.

R.T.L.

(119h) Dollfus recently described *Monadhelmis torpedinis* n. g., n. sp. but did not assign it to any known trematode family. An allied genus *Mehrairema dollfusi* n. g., n. sp. is now described from the Indian marine food-fish *Scatophagus argus* and the family *Monadhelmidae* is created by Srivastava.

R.T.L.

(119i) *Polyorchitrema piscicola* n. g., n. sp. from the intestine of *Eutropiichthys vacha* is made the type of a new subfamily, *Polyorchitreminae*, of the *Heterophyidae*. The subfamily is placed near the *Siphoderinae*, from which it differs markedly in absence of spination, presence of gonotyl and number of testes.

E.M.S.

(119j) *Waretrema piscicola* n. g., n. sp. possesses a hermaphroditic sac in place of a cirrus sac as in the *Megasoleninae*, a crown of 6 papillae dorsal to the oral suckers as in the papillose *Allocreadiidae*, and resembles the *Haploporidae* in Y-shaped excretory bladder, number of testes, and somewhat in character of terminal genital ducts. As it differs from all 3 groups in important characters it is made the type of a new family, *Waretrematidae*. It occurs in the intestine of the food-fish, *Mugil waigiensis*, from the Arabian Sea.

E.M.S.

(119k) Rao records the nematode *Gyalocephalus capitatus* for the first time in India. 3 out of over 50 hackney ponies examined in Madras were found to be infected. A short description of the parasite is included.

J.W.G.L.

(119l) Srivastava confirms the view that *Mesocestoides lineata* is developed from tetrathyrid larvae. Such larvae from a snake produced an adult infection in young jackals. There is evidence, however, that the life-history also contains a primary larva, for attempts to obtain tetrathyrid larvae by feeding onchospheres to mice and cockroaches were negative. He suggests that the first larva may occur in some low animal. Lizards and wild rats contained tetrathyrid larvae in large numbers, and in the rat the larvae grew to a very large size.

P.A.C.

(119m) Srivastava records the presence of *Ornithostrongylus quadriradiatus* from the domestic pigeon in Mukteswar. Infections were heavy and caused death in a number of cases, after acute symptoms had been noticed. The worms are blood suckers and cause severe damage to the intestinal mucosa by their burrowing activities. As there is no known cure, he recommends strict control measures.

P.A.C.

(119n) *Mehrailla ovoaudatum* n. g., n. sp. occurs in the intestine of *Stromateus cinereus*, from the Arabian Sea, and morphologically resembles most nearly *Paracryptogonimus acanthostomatus* Yamaguti, 1934.

E.M.S.

(119o) Srivastava describes *Acanthocolpus luhei* n. sp. from *Gerres punctatus*, *A. indicum* n. sp. from *Sciaena glauca*, and *A. orientalis* n. sp. from *Caranx kalla*. The hosts are all food fishes of the Bay of Bengal and/or the Arabian Sea.

E.M.S.

(119p) Srivastava has found *Fasciola gigantica* ova in the nasal discharge of a goat from the North West Frontier Province. Adults were subsequently recovered from the lungs of this goat, and of another from Peshawar. These are said to be the first Indian records of atypically located liver flukes. B.G.P.

(119q) Srivastava records the presence of *Cheilospirura hamulosa* in the gizzard, and *Tetrameres fissispina* in the stomach of fowls in the district of Mukteswar. *Cheilospirura* causes the development of soft nodules in the musculature of the gizzard, which organ may be so weakened in extreme cases as to produce a rupture in the form of a loose sac. In the case of *Tetrameres*, the greatest damage is done by the young worms burrowing into the wall of the stomach where they set up irritation and inflammation. Treatment is ineffective in both these worms and control measures are difficult owing to the migratory habits of the grasshopper, which is one of the most important intermediate hosts.

P.A.C.

(119r) The two new species of Monorchidae are both referable to the subfamily Proctotreminae. They are: *Proctotrema odhneri* n. sp. from *Equula daura*, and *Hurleytrema ovocaudatum* n. g., n. sp. from *Teuthis margaritifera*. The genus *Hurleytrema* is distinguished by the extent of the vitellaria, and by the possession of a peculiar long projection of the egg to one side at the end opposite the operculum.

E.M.S.

120—Indian Medical Gazette.

- a. MAPLESTONE, P. A. & MUKERJI, A. K., 1939.—“Eradication of *Hymenolepis nana* infection.” *74* (4), 195-198.
- b. HARE, K. P. & DUTTA, S. C., 1939.—“The comparative value of oil of chenopodium and tetrachlorethylene as anthelmintics for use in mass treatment.” *74* (4), 198-201.
- c. DAENGSVANG, S., 1939.—“An abdominal tumour caused by *Gnathostoma spinigerum* (Owen, 1836).” *74* (7), p. 399.
- d. MAPLESTONE, P. A. & RAO, S. S., 1939.—“A case of gnathostomiasis with some interesting features.” *74* (8), 479-480.

(120a) Maplestone & Mukerji have some evidence that gentian violet is a useful drug for the elimination of *Hymenolepis nana* infections in man. It is often inadvisable to use the drug continuously over a period of 6 to 7 days as it frequently causes nausea and vomiting, but an interrupted method of administration is as effective as a continuous one and avoids unpleasant symptoms. The treatment should be repeated at intervals in order to act on each new batch of cestodes as they leave the villi and enter the lumen of the intestine. The treatment has probably been successful when the stool remains negative for *Hymenolepis* ova for about one month.

P.A.C.

(120b) Hare & Dutta report on a comparison of tetrachlorethylene and oil of chenopodium for the mass treatment of hookworm infection. They find the former to have the greater efficacy, as well as more nearly fulfilling the requirements of the ideal anthelmintic. These requirements are discussed and attention is drawn to the importance of prophylactic mass treatment. The values of the anthelmintics used are assessed on the percentage of total cures obtained.

K.S.

121—Indian Veterinary Journal.

- a. SRINIVASAN, V., 1939.—“Dermatitis of cattle—microfilarial (?)” **15** (3), 296-297.
- b. RAO, M. A. N., 1939.—“A brief review of the species of schistosomes of the domesticated animals in India and their molluscan hosts.” **15** (4), 349-358.
- c. ACHARYA, S. K., 1939.—“Incidence of helminth parasites in indigenous dogs and jackals with special reference to hookworms.” **16** (1), 7-9.

(121a) Srinivasan reports three cases of dermatitis in cattle between 6 and 12 years of age in the Saugar district and suggests that they were similar to the disease described by Datta [see Helm. Abs., Vol. VII, Part 5] as a new microfilarial dermatitis of cattle.

J.W.G.L.

(121b) It is affirmed in this review that *Schistosoma bovis* and *S. japonicum* do not exist in India because their intermediate hosts are not present in the country. The Schistosoma infections of domesticated animals are a cause of much economic loss. It is suggested that hepatic infection of man with cercariae of schistosomes of animals may be one of the causes of the so-called non-alcoholic cirrhosis in man in India.

R.T.L.

(121c) From autopsies on 200 Pariah dogs and 10 jackals, Acharya found *Ancylostoma caninum* in both hosts (some specimens from dogs resembling *A. duodenale*) and *A. braziliense* in one jackal. Spirocercus and tapeworms were also common. Four dogs were infested with a species of *Chlamydonema*, this being a new host record for the genus.

B.G.P.

122—Japanese Journal of Medical Sciences. VI. Bacteriology and Parasitology.

- a. YAMAGUTI, S., 1939.—“Studies on the helminth fauna of Japan. Part 27. Trematodes of mammals, II.” **1** (3), 131-151.

(122a) Yamaguti describes *Echinostoma aegyptiacum* and *E. cinetorchis* from laboratory raised albino rats, *E. hortense* from *Lutreola itatsi itatsi*; *Eurytrema ten* n. sp. from *Martes melampus melampus*; *Lecithodendrium japonicum* n. sp., *Acanthatrium ovatum* n. sp. and *Prosthodendrium piriforme* n. sp. from the bat, *Rhinolophus ferrum-equinum nippon*; *Paramphistomum gotoi*, *Ceylonocotyle scoliocoelium*, *Calicophoron calicophorum* and *Fischoederius elongatus* from *Bos taurus* slaughtered at the Kyoto abattoir; *Fischoederius japonicus* and *Gastrothylax glandiformis* n. sp. from *Bubalus bubalis*. [Fig. 11, ventral view of the last-named parasite, appears to be a lateral view.]

E.M.S.

123—Japanese Journal of Zoology.

- a. YAMAGUTI, S., 1939.—“Studies on the helminth fauna of Japan. Part 25. Trematodes of birds, IV.” **8** (2), 129-210.
- b. YAMAGUTI, S., 1939.—“Studies on the helminth fauna of Japan. Part 26. Trematodes of fishes, VI.” **8** (2), 211-230.

(123a) Consistent with his usual practice in a systematic study, Yamaguti describes these avian trematodes family by family, treating in the course of the paper 52 new forms, and adding to our knowledge of previous ones.

The new forms are: CYCLOCŒLIDAE, *Cyclocoelum turusigi* n. sp.; NOTOCOTYLIDAE, *Catatropis cygni* n. sp., *C. hisikui* n. sp.; ECHINOSTOMATIDAE, *Echinostoma anseris* n. sp., *E. stantschinskii caudatum* n. subsp., *E. recurvatum vanelli* n. subsp., *E. phalacrocoracis* n. sp., *Himathla* [*Himasthla*] *kusasigi* n. sp., *H. megacotyla* n. sp., *Stephanophrora magniovata* n. sp., *Echinochasmus tobi* n. sp., *E. milvi* n. sp., *E. gorskii* n. sp., *Acanthoparyphium spinulosum suzumamo* n. subsp., *A. kurogamo* n. sp., *A. melanitae* n. sp., *A. tyosenense* n. sp., *A. charadrii* n. sp.; HETEROPHYIDAE, *Pygidiopsis phalacrocoracis* n. sp., *Pseudoheterophyes continua* n. g. for *Heterophyes continuus*, *Pseudoheterophyes continua major* n. subsp., *Galactosomum phalacrocoracis* n. sp., *Gynaecotyla* n. g. (for *Levinseniella squatarolae*, *L. adunca* and *L. jägerskiöldi*), *Levinseniella bucephalae* n. comb. for *Spelophallus bucephalae*, *Spelotrema capellae* n. sp., *S. longicolle* n. sp., *Maritrema eroliae* n. sp., *Pseudospelotrema japonicum* n. g., n. sp., *P. uriae* n. sp. (the new genus is distinguished from *Spelotrema* by anterior position of vitellaria, and distinct cirrus pouch and receptaculum seminis), *P. (Pseudospelotremaoides) cincli* n. subg., n. sp. (the subgenus differs in the prepharynx being practically absent, and the seminal vesicle distinctly convoluted), *Stictodora japonica* n. sp., *S. lari* n. sp., *S. mergi* n. sp.; STOMYLOTREMATIDAE, *Laterotrema* (*Pseudolaterotrema*) *cincli* n. subg., n. sp. (absence of pre-acetabular uterine coils and position of ovary); DICROCOELIIDAE, *Oswaldoia turdi* n. sp., *O. corvi* n. sp., *Lyperosomum urocissae* n. sp., *L. strigis* n. sp.; LEUCOCHLORIDIIDAE, *Leucochloridium turdi* n. sp., *L. cardis* n. sp.; ACANTHOSTOMIDAE, *Gymnophallus macrostoma* n. sp.; PLAGIORCHIDAE, *Plagiorchis maculosus motacillae* n. subsp.; TROGLOTREMATIDAE, *Renicola umigarasu* n. sp., *R. keimahuri* n. sp.; DIPLOSTOMIDAE, *Neodiplostomum strigis* n. sp., *Pseudodiplostomum major* n. sp., *Ornithodiplostomum podicipitis* n. sp., *Cercocotyla cerylis* n. g., n. sp. (conspicuous typical sucker in genital atrium, and no acetabulum in fore-body); STRIGEIDAE, *Strigea falconis japonensis* n. subsp., *Cotylurus ban* n. sp.; CYATHOCOTYLIDAE, *Meostephanus milvi* n. sp., *Holostephanus nipponicus* n. sp., *H. metorchis* n. sp. E.M.S.

(123b) Yamaguti describes 8 new and 16 known trematodes, and proposes 2 new families. New names are: BUCEPHALIDAE, *Prosorhynchus* (*Skrjabinella*) *epinepheli* n. sp.; ALLOCREADIIDAE, *Plagioporus* (*Paraplagioporus*) *isagi* n. subg., n. sp. (in the subgenus the excretory vessel reaches the anterior end of the acetabulum), *Aephnidiogenes isagi* n. sp.; ACANTHOCOLPIDAE, *Echinostephanus ditrematis* n. sp., *E. pagrosomi* n. sp.; BIVESICULIDAE n. fam. for *Bivesicula epinepheli* Yamaguti, 1938; ZOOGONIDAE, *Zoogonus pagrosomi* n. sp.; HEMIURIDAE, *Tubulovesicula magnacetabulum* n. sp., *Sterrurus pagrosomi* n. sp., *Genarchopsis gigi* n. sp.; ATRACTOTREMATIDAE n. fam. for *Atractotrema fusum* Goto & Ozaki, 1929 (near *Felodistomidae* Nicoll, 1913; Uterus penetrates cirrus pouch, Laurer's canal opens ventrally). E.M.S.

124—Journal of Agricultural Research.

- a. ANDREWS, J. S., 1939.—“Experimental trichostrongylosis in sheep and goats.” 58 (10), 761-770.
- b. ANDREWS, J. S., 1939.—“Life history of the nematode *Cooperia curticei*, and development of resistance in sheep.” 58 (10), 771-785.

(124a) An account is given by Andrews of experimental infections in 11 Hampshire-Southdown lambs and 3 Saanen kids with a mixture of

Trichostrongylus vitrinus, *T. colubriformis* and a few *T. axei*. The symptoms were profuse continuous diarrhoea, emaciation, depression, abdominal pain and a reduction in food consumption. In fatal cases the animals became rapidly weaker, collapsed, and died about 2 hours later. Eggs first appeared in the faeces 17 days after infection and reached greatest numbers between the 21st and 81st day. Fatal cases, however, did occur before the worms were mature enough to lay eggs. Small repeated doses of trichostrongyle larvae enabled the hosts to build up some resistance to infection, and doses so given were not as fatal as a few massive doses.

J.W.G.L.

(124b) Andrews gives an account of the life-history of *Cooperia* which he shows to be very similar to that of *Trichostrongylus* spp. Experimental infection with daily doses over a long period caused the production of a resistance against superinfection with the nematode; this was evidenced by the production of nodules in the intestinal mucosa around the nematodes.

J.W.G.L.

125—Journal of the American Medical Association.

a. BRACKETT, S., 1939.—“Methods for controlling schistosome dermatitis.” 113 (2), 117-121.

(125a) Brackett demonstrates by means of laboratory and field experiments that copper carbonate is more efficient than copper sulphate in the control of snails involved in schistosome dermatitis. It also has the advantage of being harmless to fish when added to alkaline water. Snails known to be important in the spread of “swimmers’ itch” have been found only in alkaline water. In large lakes where the snails are too widely distributed to be controlled by chemicals, it is suggested that the cercariae may be killed by daily addition of formaldehyde solution. Vigorous wiping of the skin immediately after leaving infested water is shown to be a useful prophylaxis.

J.J.C.B.

126—Journal of the American Veterinary Medical Association.

a. MACY, R. W., 1939.—“Disease in turkeys due to *Prosthogonimus macrorchis*.” 94 (5), 537-538.
 b. DELAPLANE, J. P. & STUART, H. O., 1939.—“Use of iodine for gape-worms in pheasants.” 94 (5), 538-539.
 c. WRIGHT, W. H., 1939.—“Studies on trichinosis. IX. The part of the veterinary profession in the control of human trichinosis.” 94 (6), 601-608.
 d. EMMEL, M. W., 1939.—“Observations on *Capillaria contorta* in turkeys.” 94 (6), 612-615.

(126a) Macy finds that infection with *Prosthogonimus macrorchis* produces serious results in turkeys. All birds quickly stop laying after experimental infection, and at postmortem examination abortive egg material and pus were found in the oviducts.

P.A.C.

(126b) Delaplane & Stuart have treated gapeworm-infested pheasants with iodine with apparently 100% success. The method was to instil a few drops of dilute iodine vermicide into the trachea by means of a pipette.

P.A.C.

(126c) Wright discusses the present status of trichinosis in the United States. Hogs fed on uncooked garbage were the most heavily infected, grain fed hogs were of less importance, and hogs fed on cooked garbage carried the least infection. In man approximately 17% infection is said to occur. It is suggested that supervision of the garbage feeding plants is the most feasible method of control.

J.W.G.L.

(126d) Emmel has examined 3 flocks of turkeys infected with *Capillaria contorta*. The parasites penetrate the surface layers of the oesophagus and crop and produce characteristic symptoms and a heavy mortality. He describes the microscopic lesions and has had successful results when 5% flowers of sulphur was added to the mash for 3 weeks. This treatment prevented the onset of the disease in unaffected animals and all the infected ones that were not too weak to eat showed steady improvement. The mechanism of the action of the sulphur was not determined but it is interesting that it has no effect on intestinal helminthiasis.

P.A.C.

127—Journal of the Chosen Medical Association.

a. HONDA, D., 1939.—“On a new cestode, *Raillietina (Raillietina) coreensis* n. sp. from a field mouse, *Apodemus agrarius coreae* in Chosen.” 29 (2), 229-233. [In Japanese: English summary p. 14.]

128—Journal of Comparative Pathology and Therapeutics.

a. ROBERTS, F. H. S., 1939.—“The occurrence and prevalence of gastrointestinal helminths in apparently healthy cattle in Queensland, Australia.” 52 (2), 160-165.

(128a) Roberts has examined the helminth fauna of the intestines of 237 healthy young cattle, slaughtered for human consumption in Queensland. He met 2 species of trematodes, 3 cestodes and 24 nematodes. Over 70% of the animals contained *Haemonchus contortus*, *Ostertagia ostertagi*, *Bosicola radiatum*, *Cooperia pectinata* and *C. punctata*. Other species were less common.

P.A.C.

129—Journal of the Council for Scientific and Industrial Research. Australia.

a. GORDON, H. McL., 1939.—“The effect of tobacco licks used for the prevention of trichostrongylosis in sheep.” 12 (2), 104-108.

(129a) Gordon concludes from experiments with a proprietary preparation of nicotine, by daily dosing with a spoon and as a salt lick, that the preparation did not check the development of trichostrongylosis in sheep. Worm-free sheep received the preparation 10 days prior to daily dosing with trichostrongyle infective larvae. Faecal egg counts and body weight variations in the two groups did not show any outstanding differences compared with the control group.

J.W.G.L.

130—Journal of Helminthology.

- a. CLAPHAM, P. A., 1939.—“On flies as intermediate hosts of *Syngamus trachea*” 17 (2), 61-64.
- b. VAN SOMEREN, V. D., 1939.—“The treatment of experimental trichinosis in the rat with Butolan.” 17 (2), 65-68.
- c. FENWICK, D. W., 1939.—“Some experiments on the extracorporeal hatching of the eggs of *Ascaris suum*.” 17 (2), 69-82.
- d. VAN SOMEREN, V. D., 1939.—“On the presence of a buccal stylet in adult *Trichinella*, and the mode of feeding of the adults.” 17 (2), 83-92.
- e. FRANKLIN, M. T., 1939.—“Natural infections of *Heterodera schachtii* on clovers in Britain.” 17 (2), 93-100.
- f. CARROLL, J. & McMAHON, E., 1939.—“Experiments on trap cropping with potatoes as a control measure against potato eelworm (*Heterodera schachtii*).” 17 (2), 101-112.
- g. FRANKLIN, M. T., 1939.—“The treatment of seed potatoes for the destruction of adherent *Heterodera schachtii* cysts.” 17 (2), 113-126.
- h. FRANKLIN, M. T., 1939.—“On the structure of the cyst wall of *Heterodera schachtii* (Schmidt).” 17 (3), 127-134.
- i. GOODEY, T., 1939.—“What is *Cephalocbus parasiticus* Sandground, 1939?” 17 (3), 135-142.
- j. GOODEY, T., 1939.—“Does ‘Tulip root’ in oats commonly arise from seed-borne infection?” 17 (3), 143-148.
- k. GOODEY, T., 1939.—“*Cylindrocorpus* nom. nov. for *Cylindrogaster* Goodey, 1927 (Nematoda).” 17 (3), 149-150.
- l. ROGERS, W. P., 1939.—“Nematode parasites of sheep in Western Australia.” 17 (3), 151-158.
- m. CLAPHAM, P. A., 1939.—“On the larval migration of *Syngamus trachea* and its causal relationship to pneumonia in young birds.” 17 (3), 159-162.
- n. CLAPHAM, P. A., 1939.—“Some polyradiate specimens of *Taenia pisiformis* and *Dipylidium caninum*, with a bibliography of the abnormalities occurring among cestodes.” 17 (3), 163-176.
- o. MORGAN, D. O. & WILSON, J. E., 1939.—“The occurrence of *Heterakis gallinae* in poultry and its relation to disease, breed, and to other helminths.” 17 (3), 177-182.

(130a) Clapham has recently demonstrated experimentally that a number of dipterous insects can act as carriers for *Syngamus trachea*. R.T.L.

(130c) Fenwick records the results of a series of experiments performed with the object of obtaining information regarding the processes involved in the hatching of *Ascaris suum*. He concludes that temperature, osmotic pressure, pH and the digestive enzymes are not in themselves agents capable of inducing hatching. He records positive results for sodium hypochlorite and for sodium sulphide and interprets the action of these substances as a physical process of adsorption of the respective ions by the egg shells. It is suggested that in nature the process is paralleled, but that ions other than Cl⁻ and S may have the same effect and that these may be produced either by bacterial action or else by the larvae themselves. D.F.

(130d) van Someren describes a functional buccal stylet which is present in adult male and female *Trichinella*. Living adults examined immediately on removal from the intestine show rapid protrusion and retraction of this stylet, probably for lacerating host tissue; the pseudo-bulb of the oesophagus and the rectum show peristaltic movements and intra-vitam staining shows an acid reaction of the stichocytes, which are probably secretory in function,

and a markedly acid reaction of the intestine and rectum. The two large cells at the junction of oesophagus and intestine show alkaline inclusions, and are probably digestive glands.

V.D.V.S.

(130e) Lemon-shaped cysts of *Heterodera schachtii*, of the type occurring very widely in soils, have been found naturally infecting *Trifolium repens* and occurring experimentally on *T. repens* and also *T. pratense*. The cysts are described.

M.T.F.

(130f) Carroll & McMahon have continued their experiments on trap-cropping with potatoe soil infected with the potato eelworm *Heterodera schachtii*. They find, in the Dublin area, that a trap-crop planted in April should be removed 5 weeks later, and may be followed immediately by a second crop removed after 3 weeks growth. If the trap-crop is not planted till May it should only be allowed to grow for 4 weeks. All rhizomes of the trap-crop must be removed, but broken roots are harmless if left in the soil. Small plot experiments have indicated an improvement in the potato crop in the year following the trap-cropping.

M.T.F.

(130g) Franklin tried various methods of treating seed potato tubers for the killing of cysts of *Heterodera schachtii* adhering to them. Of treatments with hot water and with hot or cold chemical solutions the most successful were the immersion of the tubers in cold 5% formalin for 5 or 6 hours, or in 1% formalin at 125°F. for 20 minutes. Treatment in January or sooner was least harmful to the tubers.

M.T.F.

(130h) Examination at a high magnification of the cyst walls of several strains of *Heterodera schachtii* showed what appeared to be minute pits on the outer wall. These were arranged in rows (as in *H. punctata*) in the potato and tomato strain, but irregularly in the lemon-shaped cysts of all the other strains. All the cysts also bore irregular ridges. Potato strain cysts had a single aperture at the posterior end as compared with two in *H. punctata* cysts.

M.T.F.

(130i) Goodey shows that the nematodes found by Sandground in the stomachs of 11 Macaque monkeys, caught near Batavia, and described by him under the name of *Cephalobus parasiticus*, resemble the sour paste eelworm, *Turbatrix aceti*, so closely as to be identical with it. On biological grounds reasons are given for the assumption that the monkeys acquired the nematodes by eating fruit or some other vegetable matter, on which the worms were living saprophagously.

T.G.

(130j) Goodey finds that though an occasional specimen of *Anguillulina dipsaci* may occur under the husks of oat seeds, there is good evidence that such nematodes are dead. They fail to revive on soaking oats in water and seedlings grown from such seed manifest no symptoms of "tulip root". The parasite cannot be found in such seedlings after staining them in Scarlet R. He concludes that the risk of spread of "tulip root" by seed-borne infection is practically negligible.

T.G.

(130l) Rogers found *Trichostrongylus* spp. and *Ostertagia circumcincta* to be the most important parasites of sheep in Western Australia. *Trichostrongylus rugatus*, *T. probolurus* and *Ostertagia mentulata* are reported for the first time from that State. Examination of 407 sheep during the year showed

that infestations were highest in late summer and lowest in mid-winter. A seasonal variation in egg output was also recorded, more eggs being shed during the winter months. Results indicated that with increases in the numbers of parasites the egg output per female worm decreased. W.P.R.

(130m) Clapham has demonstrated that larvae of *Syngamus trachea* reach the lungs via the blood stream. In the lungs they may cause the onset of a typical lobar pneumonia and this condition occurs not only in experimental animals but also in the wild state in partridges and pheasants. P.A.C.

(130n) Polyradiate specimens of *Taenia pisiformis* and *Dipylidium caninum* are recorded by Clapham, together with a melanistic specimen of *T. pisiformis*. The whole subject of abnormalities among cestodes is summarized and the literature dealing with the subject is listed. P.A.C.

(130o) Morgan & Wilson found that tuberculosis in poultry is associated with a low degree of infestation with *Heterakis gallinae*, and that among breeds of fowls White Wyandotte is less susceptible to this parasite than White Leghorn and Rhode Island Red. The authors also found that heavy infestations with other species of worms were associated with large numbers of *H. gallinae*. D.O.M.

131—Journal of Infectious Diseases.

a. TALIAFERRO, W. H. & SARLES, M. P., 1939.—“The cellular reactions in the skin, lungs and intestine of normal and immune rats after infection with *Nippostrongylus muris*.” 64 (2), 157-192.

(131a) Taliaferro & Sarles find that penetration of the skin of clean rats with larvae of *Nippostrongylus muris* induces a mild inflammation which subsides as the larvae pass through. In rats already infected there is an intense inflammation with the development of nodules around larvae. These subside later when the larvae die. There is often oedema and haemorrhage. In the lungs of clean rats there is developed a mild inflammation when the larvae arrive, but in already infected rats there occurs a very intense inflammation with a deposition of precipitates around the larvae. When the larvae reach the intestine in the first group there is some injury to the villi which is quickly repaired. A week later precipitates are found and some worms are thrown out. Inflammation subsides about a week later. In the second group of rats there is a more intense inflammation which subsides more quickly as the worms are expelled. The immunity depends largely on humoral factors and is the same in the skin, lungs and intestine. Rats already immune produce more intense reactions and by so doing stunt the larvae and hinder further development. P.A.C.

132—Journal of Laboratory and Clinical Medicine.

a. TSUCHIYA, H. & BAUERLEIN, T. C., 1939.—“Intradermal test as an aid in the diagnosis of enterobiasis.” 24 (6), 627-631.

(132a) Using Enterobius antigen, Tsuchiya & Bauerlein examined 3 rabbits infected with *Passalurus ambiguus* by means of the intradermal test and obtained positive reactions. Negatives were obtained with rabbits and guinea-pigs carrying *Trichinella*. They examined 24 people complaining

of pruritis ani. These all gave positive reactions and 19 of them were afterwards proved by stool examination to be infected with the parasite. Ten uninfected controls gave negative skin reactions. They believe that patients who have had the infection and have been cured continue to give a slightly positive reaction for a long time afterwards, and all positives should be checked up with faeces examination after administration of a purgative or a copious enema.

P.A.C.

133—Journal of Parasitology.

- a. AUGUSTINE, D. L. & DAVEY, D. G., 1939.—“Observations on a natural infection with *Strongyloides* in the dog.” 25 (2), 117-119.
- b. ALICATA, J. E. & CHANG, E., 1939.—“The life history of *Hymenolepis exigua*, a cestode of poultry in Hawaii.” 25 (2), 121-127.
- c. VAN CLEAVE, H. J., 1939.—“A new species of the acanthocephalan genus *Polymorphus* and notes on the status of the name *Profilicollis*.” 25 (2), 129-131.
- d. GOODCHILD, C. G., 1939.—“*Cercaria donecerca* n. sp. (Gorgoderid cercaria) from *Musculium partumeum* (Say), 1822.” 25 (2), 133-136.
- e. NOLAN, M. O. & REARDON, L., 1939.—“Studies on oxyuriasis. XX. The distribution of the ova of *Enterobius vermicularis* in household dust.” 25 (2), 173-177.
- f. ALICATA, J. E., 1939.—“Preliminary note on the life history of *Subulura brumpti*, a common cecal nematode of poultry in Hawaii.” 25 (2), 179-180.
- g. DeGIUSTI, D. L., 1939.—“Preliminary note on the life cycle of *Leptorhynchoides thecatus*, an acanthocephalan parasite of fish.” 25 (2), p. 180.
- h. HIYEDA, K. & TERADA, B., 1939.—“A new anthelmintic ‘Raigan’ for taeniasis.” 25 (2), 183-184.
- i. STEWART, M. A., 1939.—“The validity of *Dipylidium sexcoronatum* von Rátz 1900 (Cestoda).” 25 (2), 185-186.
- j. OLSEN, O. W., 1939.—“*Diasia podilymbi*, correction for *Diasia podilymbae* Olsen, 1938.” 25 (2), p. 186.

(133a) Augustine & Davey report the finding of a natural infection of *Strongyloides* in a dog in Massachusetts. Despite attempts to re-infect the animal, the faeces subsequently became negative and autopsy revealed no worms. As a result of their failure to infect laboratory animals and man (one attempt) the authors urge the validity of the species *Strongyloides canis* Brumpt, 1922.

W.P.R.

(133b) Alicata & Chang find that eggs of *Hymenolepis exigua* may complete their larval development in the amphipod, *Orchestia platensis*. Infective cysticercoids develop therein in about 12 days and, when fed to young chickens, reach maturity in 9 to 10 days. They describe the various stages in the development of the cysticercoid and the morphology of the infective larva and adult worm.

P.A.C.

(133c) Van Cleave reduces *Profilicollis* to synonymy with *Polymorphus*, because during a restudy of the group he has found numerous specimens intermediate in character between the two types. *Profilicollis botulus* (Van Cleave, 1916) thus becomes *Polymorphus botulus* (Van Cleave, 1916) and *Profilicollis arcticus* (Van Cleave, 1920) becomes *Polymorphus arcticus* (Van Cleave, 1920). A species from the scaup duck, *Nyroca marila*, exhibiting characters of both genera, is described as *Polymorphus marilis* n. sp. E.M.S.

(133e) Nolan & Reardon found ova of *Enterobius vermicularis* in dust collected at all levels in all of the rooms of 7 houses inhabited by one or more persons heavily infected with pinworms. The dust samples were collected with a small camel-hair brush, moistened with water, passed over the surface from which the sample was to be taken and placed in a test tube for laboratory examination. There this was dipped gently into a few drops of decinormal sodium hydroxide solution on a deep-well slide and examined under the microscope. Pinworm ova were found in 91.7% of the 241 dust samples examined. A proportion of the ova must have been carried by air currents, so that infection by inhalation is theoretically possible and should be considered in the prophylaxis and therapy of oxyuriasis. M.R.Y.

(133f) Alicata finds that *Subulura brumpti* differs from most other heteroxenous nematode parasites of vertebrates (except the Filarioidea and Spiruroidea) in needing an arthropod intermediate host. He has found natural infections with the larvae of *S. brumpti* in Hawaii in the following insects: *Dermestes vulpinus*, *Gonocephalus seriatum*, *Ammophorus insularis*, *Alphitobius diaperinus* and *Euborellia annulipes*. He was not successful in completing the life-history without a vector. P.A.C.

(133g) DeGiusti has followed the development of the eggs of *Leptorhynchoides thecatus* in the amphipod, *Hyalella knickerbockeri*, to the 22nd day after infection, when the amphipods died. The embryos, after hatching, leave the intestine and develop in the coelom, first into a bladder-like form, then into an elongated S-shape, with visible proboscis sheath and genital primordia. E.M.S.

(133h) Hiyeda & Terada have treated infestations of *Taenia saginata*, *T. solium*, *Hymenolepis diminuta* and *H. nana* of man and *Dipylidium caninum* of dogs with "Raigan" (*Omphalia lapidescens*). 20 grain doses of the crude material or 0.3 grain doses of the active principle given three times daily for 3 days were successful in all cases. No unpleasant complications resulted and no purging was necessary. The drug seems to destroy the tissues of the worms and although *Taenia* scolices were never recovered, no reappearance of the infestation was visible within four months. K.S.

(133i) Despite the overlapping of morphological characters there are physiological differences which justify the separation of *Dipylidium sexcoronatum* from *D. caninum*, for whereas iso-amyl-ortho-cresol has no effect on the former it is a highly efficient anthelmintic for the latter. R.T.L.

134—Journal of the Royal Army Medical Corps.

a. EVANS, R. R., 1939.—"Cysticercosis in an athlete." 73 (1), 52-54.

135—Journal of the South African Veterinary Medical Association.

a. RYKSEN, W. J., 1939.—"The occurrence and pathogenicity of *Nematodirus* species in arid areas." 10 (1), 29-31.

(135a) In the Great Karroo of South Africa *Nematodirus* is frequent and is the cause of hitherto unsuspected pathogenic effects. Where sheep are watered from open dams its effects are obvious in young stock in the absence

of any other helminths. The chief symptoms are marked emaciation and weakness *without* diarrhoea. Hydropericard and sometimes hydroperitoneum is accompanied by gelatinous infiltration in advanced cases. All stages of red and grey hepatization of the lung may also be present. The most effective remedy is tetrachlorethylene mixed with equal parts of medicinal liquid paraffin in doses up to 20 c.c. for adult sheep. 2.5 c.c. of a 10% solution of copper sulphate is given immediately prior to the anthelmintic which is administered slowly by syringe. Two treatments monthly are advisable but under Karroo conditions two treatments in the autumn will enable the sheep to pass the winter in prime condition.

R.T.L.

136—Journal of the South-Eastern Agricultural College, Wye.

- a. WARE, W. M., 1939.—“The nettlehead disease of hops.” No. 44, pp. 41-43.
- b. OGILVIE, L., 1939.—“The nettlehead disease of hops in the Bristol Province.” No. 44, pp. 44-46.

(136a) Nettlehead disease of hops, which for many years has been attributed to infection with *Heterodera schachtii*, is now thought to be due to a virus.

R.T.L.

(136b) The view that nettlehead disease in hops is due to attack by *Heterodera schachtii* is now largely discredited. Although this eelworm occurs sparsely on the roots of most hops the disease cannot be produced experimentally by planting in eelworm-infected soil. Ogilvie has failed to implicate a virus experimentally.

R.T.L.

137—Journal of Tropical Medicine and Hygiene.

- a. DASSANAYAKE, W. L. P., 1939.—“Filarial infection in relation to physiographic changes in two localities in Ceylon.” 42 (10), 145-149.
- b. HOFF, H. & SHABY, J. A., 1939.—“Two cases of polyneuritis (beri-beri ?) due to ankylostomiasis.” 42 (11), 157-158.
- c. SWARTZWELDER, J. C., 1939.—“A comparison of five laboratory techniques for the demonstration of intestinal parasites.” 42 (13), 185-187.

(137a) Rural filariasis in Ceylon is caused by *Filaria malayi*. It is shown that in 2 areas, known to have had a very heavy infestation 20 years ago, the elimination of the water plants, especially of *Pistia stratiotes*, due to drainage schemes has brought about a marked reduction in the filarial rate.

R.T.L.

(137c) Faeces from 319 individuals were each examined by 5 different techniques, viz., (i) direct smear, (ii) centrifugal concentration, (iii) zinc sulphate centrifugal flotation, (iv) brine (direct) centrifugal flotation, (v) sedimentation. Each method is described. 121 infections, 96 protozoal and 25 helminth, were found by the combined methods. The 25 helminth infections were found by the various techniques as follows: technique (i) 7; (ii) 9; (iii) 19; (iv) 19; (v) 22. The helminth eggs were *Ascaris lumbricoides*, *Trichuris trichiura*, *Necator americanus*, *Hymenolepis nana*, and the larvae of *Strongyloides stercoralis*.

R.T.L.

138—Journal of the Washington Academy of Sciences.

- a. CHRISTIE, J. R., 1939.—“Predaceous nematodes of the genus *Aphelenchoides* from Hawaii.” **29** (4), 161-170.
- b. BARTSCH, P., 1939.—“A new intermediate host of the Asiatic blood fluke, *Schistosoma japonicum* Katsurada.” **29** (4), 173-175.

(138a) Christie has made a study of 5 species of predaceous nematodes belonging to the genus *Aphelenchoides* which were found by Linford and Oliveira to be capable of preying upon other nematodes, including *Heterodera marioni*, in Hawaiian soils. Cultures of these 5 species were sent to Christie and in addition to *A. tenuicaudatus* (de Man) which was present, the 4 following are established as new to science, namely, *A. winchesi* var. *filicaudatus* n. var., *A. linfordi* n. sp., *A. oliveirae* n. sp. and *A. oahuensis* n. sp. T.G.

(138b) A large series of *Oncocelania* collected by Dr. Y. T. Yao and serving as intermediate hosts of *Schistosoma japonicum* in the central part of Kwangsi Province, China, prove to belong to a new species which Bartsch describes and names *O. yaoi* n. sp. “Its almost flattened whorls, brilliant translucent wax color with pinkish early whorls, heavy distantly spaced, axial, ribs and peculiar radula formula easily distinguish it from all the known species of *Oncocelania*.” R.T.L.

139—Keizyô Journal of Medicine.

- a. PARK, J. T., 1939.—“Trematodes from Mammalia and Aves. II. Two new trematodes of Plagiorchidae: *Plagiorchidaes* [*Plagiorchoides*] *rhinolophi* n. sp. and *Plagiorchis orientalis* n. sp. from Tyôsen (Korea).” **10** (1), 1-6.
- b. PARK, J. T., 1939.—“Fish trematodes from Tyôsen. II. Some new digenetic trematode parasites from marine fishes.” **10** (1), 7-18.

(139a) Park accepts the generic name *Plagiorchoides* for those species of *Plagiorchis* possessing a seminal receptacle, but considers *P. noblei* Park, 1936 needs re-examining before placing in this genus. *Plagiorchoides rhinolophi* n. sp. is from the intestine of the bat, *Rhinolophus ferrum-equinum*. *Plagiorchis orientalis* n. sp. is from *Hirundo daurica nipporensis*; the author differentiates this species from *P. bulbulii* by the relative size of the suckers, and by the protrusion of the cirrus. E.M.S.

(139b) Park describes *Echinostephanus elongatus* n. sp. from *Arcliscus joyneri*, *Decemtestis kobayashii* n. sp. from *Arcliscus joyneri* and *A. purpureo-maculatus*, and *Diplocreadium koreanum* n. g., n. sp. from *Sphaeroides ocellatus*. The new genus resembles *Bianium* in general characters, so although without anus it is placed among the Diploproctodaeidae, the presence of the anus being regarded as merely of generic importance. E.M.S.

140—Lancet.

- a. MCKENZIE, A., 1939.—“Deficiency of vitamin B in hookworm anaemia.” *Year 1939*, **1** (6038), 1143-1145.

(140a) Two cases of hookworm anaemia are described in which the oedema was rapidly cured by treatment with brewers' yeast and betaxin after iron and a generous diet had failed. It is suggested that the oedema is due to a deficiency of vitamin B₁ through loss of blood due to the bloodsucking habits of the hookworms. R.T.L.

141—Lingnan Science Journal.

a. KOO, S. Y., 1939.—“Nematode parasites of *Bufo melanostictus*, the common toad, from Canton.” 18 (2), 143-154.

(141a) Six nematode species are described from the common toad, *Bufo melanostictus*, from Canton. No cestode or trematode species was found. Of the nematodes recorded *Oswaldocruzia (O.) heparia* n. sp. and *Spironoura pectinospiculata* n. sp. are new. R.T.L.

142—Medical Journal of Australia.

a. HEYDON, G. A. M. & BEARUP, A. J., 1939.—“A further case of human infection with *Trichostrongylus colubriformis* in New South Wales.” 26th Year, I (18), 694-695.

143—Medical Parasitology and Parasitic Diseases.

a. SHULMAN, E. S., VISHNEVSKAYA, S. M., ZATURENSKAYA, B. L. & PARETSKAYA, M. S., 1939.—“Contribution au problème de l’opisthorchose dans la région de Nicolaev.” 8 (1), 58-63. [In Russian.]

b. MIRONOVA, M. N., 1939.—“L’opisthorchose dans la région de Dnjepropetrovsk (District de Nikopol).” 8 (1), 64-68. [In Russian: French summary p. 68.]

c. PLOTNIKOV, N. N., 1939.—“La clinique de l’opisthorchose.” 8 (1), 69-77. [In Russian: French summary p. 77.]

d. POSLAVSKI, E. V., 1939.—“Sur la clinique et le traitement de l’opisthorchose.” 8 (1), 78-82. [In Russian.]

e. POSLAVSKI, E. V., 1939.—“Clinique et traitement de la strongyloïdose.” 8 (1), 83-88. [In Russian.]

(143a) Of 276 fishermen and their families 72, i.e., 26%, were found to be infected with *Opisthorchis felineus*. The age incidence is given in 5-yearly groups. R.T.L.

(143b) In the district of Nikopol 7.5% of representatives of the local population were found to harbour *Opisthorchis felineus*. R.T.L.

(143c) From a clinical study of 191 cases of opisthorchiasis Plotnikov finds that the most frequent symptoms are cholecystitis and angiocholangitis. Chronic pancreatitis is not uncommon. As many as 78 flukes occurred in one of the cadavers. Pancreatic invasion was noted in 36% of the post-mortems of cases of opisthorchiasis. R.T.L.

144—Nederlandsch Tijdschrift voor Geneeskunde.

a. SNIJDERS, E. P., 1939.—“Een ouderwetsch geval van anchylostomiasis.” 2 (25), 3175-3182.

145—North American Veterinarian.

a. JERSTAD, A. C., 1939.—“Critical tests of iso-amyl-ortho-cresol as an anthelmintic for the removal of tapeworms from dogs.” 20 (6), 35-38.

b. BILD, C. E., 1939.—“Some phases of filariasis.” 20 (7), 55-57.

(145a) Jerstad, in tests on 12 dogs, has found iso-amyl-ortho-cresol to be quite ineffective for the removal of *Dipylidium caninum*, *Taenia pisiformis*,

Ancylostoma caninum and *Trichuris vulpis*. It had some action on *Toxocara canis*, but did not compare favourably with standard remedies for this parasite.

K.S.

(145b) Bild records his treatment of filariasis in the dog, laying special stress on diet in addition to daily intravenous injection of Fouadin or Filsol. A summary is included of the answers of 16 Florida veterinarians to a questionnaire as to treatment, diagnosis, urine examinations, diet and the possibility of immunity.

J.W.G.L.

146—Nuovo Ercolani.

a. GARZIA, G., 1939.—“Lesioni aortiche da *Onchocerca armillata* Railliet ed Henry 1909 nei bovini dell’Africa Orientale.” **44** (6), 229-234.

(146a) Garzia has found about 50% of 4,000 bovines in Italian East Africa to be infested with *Onchocerca armillata*, which gives rise to nodules mainly in the thoracic aorta. These nodules, which may occur in either the adventitia or the media, are described in detail. Infection is particularly high in the plain of Eritrea.

B.G.P.

147—Palestine Gazette. Agricultural Supplement.

a. ANON, 1939.—“The incidence and control of hydatid cyst.” No. 42, pp. 118-120.

148—Parasitology.

a. SANDGROUND, J. H., 1939.—“*Cephalobus parasiticus* n. sp. and ‘pseudo-strongyloidiasis’ in *Macaca irus mordax*.” **31** (1), 132-137.
b. MACFARLANE, W. V., 1939.—“Life cycle of *Coitocaecum anaspisidis* Hickman, a New Zealand digenetic trematode.” **31** (2), 172-184.

(148a) Sandground describes and figures a new nematode, *Cephalobus parasiticus* n. sp., from the stomachs of 11 out of 16 monkeys (*Macaca irus mordax* syn. *M. cynomolgus*) caught in the vicinity of Batavia. Adults of both sexes and larvae were abundant in the fundus of the stomach in certain cases, but the mucosa of the stomach was found to be uninjured and the conclusion is drawn that the worms are not pathogenic to the host. A test animal was easily infected by administering adults and larvae through a stomach tube. Unsuccessful attempts were made to infect 4 young rats and a guinea-pig. The worms were successfully cultured on a bouillon-agar at laboratory temperature, i.e., 26°C. to 31°C. The author regards the species as saprozoic and facultatively parasitic.

T.G.

(148b) Macfarlane emphasizes the vast amount of work to be done on helminthology in New Zealand. *Coitocaecum anaspisidis* (Allocreatidiidae) is an internal parasite of the fishes *Galaxias brevipinnis*, *G. attenuatus*, *Gobiomorphus gobioides*, young *Salmo fario* and *Anguilla* sp. up to 30 cm. long. The first intermediate host is either of 2 species of the mollusc *Potamopyrgus*. The second host, where the cercaria encysts, is in New Zealand *Paracalliope fluvialis* and in Australia *Anaspides tasmaniae*. In either amphipod progenetic development frequently takes place, producing eggs which

apparently develop parthenogenetically. Otherwise the cycle is completed by the fish feeding on infected amphipods. E.M.S.

149—Proceedings of the Helminthological Society of Washington.

- a. SCHWARTZ, B., 1939.—“Freedom from viable trichinae of frankfurters prepared under Federal meat inspection.” 6 (2), 35-37.
- b. SPINDLER, L. A. & CROSS, S. X., 1939.—“Intracutaneous tests for the detection of trichina infections experimentally and naturally acquired by swine.” 6 (2), 37-42.
- c. LUCKER, J. T., 1939.—“The effect of some halogenated hydrocarbons on eggs of *Toxocara canis* (Nematoda).” 6 (2), 51-57.
- d. JACOBS, L. & JONES, M. F., 1939.—“Studies on oxyuriasis. XXI. The chemistry of the membranes of the pinworm egg.” 6 (2), 57-60.
- e. THORNE, G., 1939.—“Some factors governing the success of chemical treatment of soil for nematode control.” 6 (2), 60-62.
- f. TAYLOR, A. L., 1939.—“Efficient spacing of soil fumigants for field applications.” 6 (2), 62-66.
- g. CHITWOOD, B. G., 1939.—“A rapid method for determining *k* values of nematocides.” 6 (2), 66-70.
- h. CHITWOOD, B. G., 1939.—“Frames for spacing injections of soil nematocides.” 6 (2), 70-73.
- i. HUNTER, III, G. W., 1939.—“Studies on *Clinostomum*. V. The cyst of the yellow grub of fish (*Clinostomum marginatum*).” 6 (2), 73-76.
- j. SHOKR, D. A., 1939.—“Preliminary observations of the effect on sheep of pure infestation with the tapeworm, *Moniezia expansa*.” 6 (2), 77-79.
- k. PORTER, D. A., 1939.—“Some new intermediate hosts of the swine stomach worms, *Ascarops strongylina* and *Physocephalus sexalatus*.” 6 (2), 79-80.
- l. PRICE, E. W., 1939.—“North American monogenetic trematodes. IV. The family Polystomatidae (Polystomatoidea).” 6 (2), 80-92.
- m. McINTOSH, A., 1939.—“Description of a plagiorchiod trematode, *Leptophyllum tamiamiensis*, n. sp., from a poisonous snake.” 6 (2), 92-94.
- n. CRAM, E. B., 1939.—“Redescription and emendation of the genus *Aprocotella* (Filaridae), nematodes from gallinaceous birds.” 6 (2), 94-95.
- o. WEHR, E. E., 1939.—“New genera and species of Filarioidea. III. *Sarconema eurycerca* n. gen., n. sp.” 6 (2), 95-97.
- p. DIKMANS, G., 1939.—“Helminth parasites of North American semi-domesticated and wild ruminants.” 6 (2), 97-101.
- q. FOSTER, A. O., 1939.—“Some helminthic parasites recovered from domesticated animals (excluding equines) in Panama.” 6 (2), 101-102.
- r. DINABURG, A. G., 1939.—“Helminth parasites collected from deer, *Odocoileus virginianus*, in Florida.” 6 (2), 102-104.
- s. DOUGLAS, J. R., 1939.—“The domestic cat, a new host for *Thelazia californiensis* Price, 1930 (Nematoda: Thelaziidae).” 6 (2), p. 104.
- t. CRAIG, R. & SPURLOCK, G. M., 1939.—“Buffered solutions in staining helminths.” 6 (2), 104-105.

(149b) Spindler & Cross have attempted to diagnose trichinosis in swine by means of the intradermal test, using antigens made from dried larvae and from living decapsulated larvae. Various antigens were made with different extracts. However, they were unable to evolve a suitable technique, for 29.8% of the infected animals failed to give any response and 22.5% gave a very doubtful reaction. Some of these animals were very heavily infected. A further 8.6% of the uninfected pigs gave a strong positive reaction. Several explanations may be advanced to account for the occurrence of positive reactions in uninfected pigs.

P.A.C.

(149c) Lucke finds that ethylene dichloride is the lethal constituent of the compound known as chlorosol and is more effective than dichloropentanes, while carbon tetrachloride is largely ineffective. Close confinement of the gases to the soil containing the eggs for 48 to 96 hours is essential for a high mortality to be obtained.

E.M.S.

(149d) By chemical tests the authors have shown that the outer covering of the pinworm egg (*Enterobius vermicularis*) consists of 3 membranes. These are an outer membrane of unknown composition, a chitinous shell and an inner lipoidal membrane. In order to reach the embryo an effective ovicide must dissolve proteins and lipoids.

M.R.Y.

(149e) Thorne gives data showing the importance, in the chemical control of nematodes in the soil, of a study of soil structure, distribution of the nematode population, soil moisture and penetration of the chemical. 800 lb. per acre of calcium cyanide ploughed in at a depth of 10 to 12 inches and followed by harrowing and levelling of the soil killed all but 4.56% of the total *H. schachtii* population. The surviving eelworms gave rise to a noticeable infection in the subsequent beet crop. 5% of the *H. schachtii* cysts in the top 2 inches of soil survived because of diffusion of the cyanide gas at the soil surface. At a depth of 3 to 14 inches all were killed, but few were harmed below 14 inches, as the soil was too compact for adequate penetration of the chemical. A significant proportion of the nematode population occurred in the lower layers of the cultivated soil and in the subsoil down to 24 inches.

M.T.F.

(149f) Taylor has worked out the most economical spacing for applications of liquid fumigants to the soil. He concludes that for greatest efficiency the points of application should be along parallel rows, and he gives formulae by which the distance apart of the rows and the points in the rows may be decided when the maximum range of efficient action of the chemical is known. Numbers of applications per acre and quantities of fumigant are also calculated.

M.T.F.

(149g) Chitwood describes the development of a technique for determining the greatest distance from the point of application at which a soil fumigant will kill nematodes. This distance is called *k*. Vials containing nematodes (*Ditylenchus dipsaci*) are arranged at intervals along the arms of an I, X or Y-shaped support buried in the soil. The lethal effects of chemicals injected into the soil at various points are determined. The I-type test is considered valuable for selecting chemicals and doses, but X or Y-type tests, with the addition of a vertical arm, should be used to determine the spacing of the injections in the field.

M.T.F.

(149h) Chitwood describes frames of use for the accurate determination of the points of application of soil fumigants to greenhouse beds. Formulae are given, based on Taylor's *k* values for nematocides, for the position in the frames of the holes through which the chemical is to be injected, and the method of use on different sized beds is explained.

M.T.F.

(149i) The cysts of *Clinostomum marginatum* are large and easily ruptured in *Lebistes reticulatus*; in *Micropterus dolomieu* and *Eupomotis gibbosus* they are small, the walls very thin and strong; in *Enneacanthus obesus* the walls are thick, with some melanin granules and there is considerable

connective tissue infiltration into the muscles of the host. In all four hosts the basic type is the same, viz., a connective tissue capsule formed entirely by the host tissues.

E.M.S.

(149j) Experimental infections of 3 five-month-old lambs with *Moniezia expansa* by feeding cysticercoids recovered from beetle mites is reported by Shorb. Eggs first appeared in the faeces 37 to 44 days after infection. The infected animals did not show the symptoms of unthriftiness and anaemia attributed to this parasite in the past, but gains in weight were slightly less than in the case of the control animals.

J.W.G.L.

(149k) Porter examined 289 dung beetles for larvae of *Physocephalus sexalatus* and *Ascarops strongylina* and found encysted third stage larvae of the latter species in 27 of 145 specimens of *Aphodius lividus*, and third stage larvae of the former species in 4 of 7 specimens of *Copris minutus* and in 4 specimens of *Canthon pilularius*. *Phanaeus vindex* is regarded as an important vector of *Physocephalus sexalatus*, for all specimens of this beetle were found infested, and the average number of larvae found was 300. 550 of these encysted larvae were fed to a worm-free pig and 9 days later 250 *P. sexalatus* were recovered.

J.J.C.B.

(149l) New names created include *Polystoma gallieni* n. sp. (described by Gallien, 1938), *P. ozakii* n. sp. (syn. *P. integerrimum* of Ozaki, 1935); *Polystomoidella* n. g. with two species, *P. oblongum* n. comb. and *P. whartoni* n. sp., which are both in part synonymous with *Polystoma oblongum* and *P. hassalli*; *Neopolystoma* n. g. for 6 species of *Polystoma* without large haptorral hooks; subfamily *Sphyranurinae*, new name for *Dicotylinae*, untenable because not based on existing generic name.

E.M.S.

(149m) *Leptophyllum tamiamiensis* n. sp. occurs in large numbers in the ureters and cloaca of *Agyistrodon piscivorus*, and appears to be specific for this host.

E.M.S.

(149n) Since descriptions of Cram's genus and species, *Aproctella stoddardi* were published (1931) in a volume with limited distribution, and were marred by a typographical omission, they are here repeated with emendations.

B.G.P.

(149o) Wehr describes and figures *Sarconema eurycerca* n. g., n. sp. from the heart muscle of the whistling swan, *Cygnus columbianus*, in Washington, Wisconsin and Utah. The new genus falls into the Dipetalonematinae.

B.G.P.

(149p) Dikmans tabulates the helminths recorded from wild ruminants in North America, excluding those in the National Zoological Park. A feature of the table is the absence of *Fasciola hepatica*.

B.G.P.

(149q) In 1936 Foster recorded the helminths of equines in Panama. He now gives records for fowl, sheep, goat, cattle, pig, dog and cat, many of them reported for the first time from this locality.

B.G.P.

(149r) Dinaburg has examined for helminths: portions of rumen, liver and lung, and washings from the alimentary canal of 308 *Odocoileus virginianus*, of which 64% were infected. The helminths, which are tabulated, consisted mainly of amphistomes, *Fascioloides magna* and species of *Ostertagia* and *Haemonchus*.

B.G.P.

(149t) Using haematoxylin as staining agent, Craig & Spurlock have determined the pH range for selective staining. The proper pH for Cestoda and Trematoda, using *Taenia* sp., *Mesocestoides variabilis*, *Dipylidium caninum*, *Hymenolepis diminuta*, *Brachycoelium lynchi*, *Glypthelmins californiensis* and *Fasciola hepatica*, is in the region of 1.2. It varies from 1.2 to 1.15 in nematodes when the experimental worms were *Strongylus vulgaris*, *S. edentatus*, *S. equinus*, *Physaloptera* sp., *Aspicularis tetrapтерa* and *Syphacia obvelata*. It was necessary to lower the pH in all groups when large specimens were used.

P.A.C.

150—Proceedings of the Linnean Society of London.

- a. BAYLIS, H. A., 1939.—“A larval trematode (*Diplostomum volvens*) in the lens of the eye of a rainbow trout.” [Demonstration.] 151st Session, Part 2, p. 130.

151—Proceedings of the National Academy of Sciences, India.

- a. PANDE, B. P., 1939.—“On the trematode genus *Hyperosomum* Looss, 1899 (Dicrocoeliidae) with a description of two new species from India.” 9 (1), 15-21.
- b. PANDE, B. P., 1939.—“Two new species of trematodes from *Anhinga melanogaster*, the Indian darter or snake-bird.” 9 (1), 22-28.

(151a) After discussing the validity of various species of the genus *Hyperosomum* Pande creates *L. bhattacharyai* n. sp. and *L. stunkardi* n. sp.

R.T.L.

(151b) Descriptions are given of *Petasiger nicolli* n. sp. and *Apatemon pandubi* n. sp.

R.T.L.

152—Puerto Rico Journal of Public Health and Tropical Medicine.

- a. HOFFMAN, W. A. & JANER, J. L., 1939.—“A parasite survey of Isabela.” 14 (4), 439-444. [Also in Spanish, pp. 445-449.]

(152a) The incidence of parasitic infection in Isabela has been examined by Hoffman & Janer. Faecal samples were supplied mainly by school children, but a number of adults of various ages also sent samples. Hook-worm is very common, more so in males than in females, but the individual level of infection is low. The highest percentage in males occurs between the ages of 16 to 20 years, but in females it occurs earlier. Ascaris is common up to 5 years of age but after that its frequency diminishes. Females are more often infected and individual burdens are often heavy. Trichuris is very common, particularly between the ages of 6 to 10 years. Strongyloides occurs but accurate data was not obtained as ova are rarely found in faeces. *Schistosoma mansoni* occurred in less than 1% of the samples examined. *Fasciola hepatica* and *Hymenolepis nana* each occurred once. Eggs of *Heterodera radicicola* occurred in a group much addicted to the consumption of root crops.

P.A.C.

153—Queensland Agricultural Journal.

- a. ANON, 1939.—“Drenching for worms in sheep.” **51** (3), 313-314.
- b. ROBERTS, F. H. S., 1939.—“Some parasitic diseases of livestock in overseas countries of interest to Australia.” **51** (6), 570-580.

154—Reunión (Novena) de la Sociedad Argentina de Patología Regional.

- a. MAZZA, S., 1939.—“Espiroquetas y microfilarias en comadrejas (*D. paraguayensis*) de la zona biológica chaqueña.” **3**, 1941-1945.

155—Revista Médica Veracruzana.

- *a. CARRILLO GIL, H., 1939.—“Cisticercosis porcina.” **19**, 2745-2746.

156—Revista de Medicina Tropical y Parasitología, Bacteriología, Clínica y Laboratorio.

- a. STILES, C. W., 1939.—“Some of the factors influencing the spread of disease.” [Abstract of a lecture before the students of the School of Parasitology, Havana University, February, 1938.] **5** (2), 115-118.

(156a) The three most important biological factors influencing the spread of disease are climate, geological formation and migration of hosts or intermediary hosts.

R.T.L.

157—Revue de Médecine Vétérinaire.

- *a. BRIZARD, A. & FLORIO, R., 1939.—“Un nouveau cas de parasitisme du poumon par *Tetrathyridium Bailleti*.” **91** (1), 20-21.

158—Revue Médicale Française d'Extrême-Orient.

- a. JOYEUX, B., TRUONG-CAM-CONG & NGUYEN-XUAN-NGUYEN, 1939.—“Nouvelles contributions à l'étude de la sparganose oculaire au Tonkin.” **24** (1), 27-46.
- b. RIVOALEN, A., 1939.—“La filariose en Extrême-Orient.” **27** (3), 260-264.

(158a) In addition to frogs and toads, serpents in Indo-China, especially *Tropidonotus* and *Zamenis*, are frequently infected with spargana. Of 25 cases of sparganosis observed by the authors 15 affected the right eye, 7 the left eye and 4 both eyes. In no case was the eyeball penetrated. A brief account is given of the pathological anatomy, and clinical notes of 14 cases are added. The value of novarsenobenzol in treatment is confirmed. R.T.L.

(158b) Rivoalen holds that the current evidence for the theory of the filarial origin of lymphangitis and elephantiasis is insufficient, especially in view of the work of French authors in the Antilles and Africa, which favours the theory of the bacterial origin of the disease.

J.J.C.B.

* Original not available for checking or abstracting.

159—Revue de Zoologie et de Botanique Africaines.

a. BERGHE, L. VAN DEN, 1939.—“Un strigéidé nouveau du Congo Belge *Pharyngostomum congolense*.” 32 (2), 199-205.

(159a) *Pharyngostomum congolense* n. sp. is described from 3 hosts, representing 3 classes of vertebrates, viz., *Bufo regularis* (Amphibia), *Cinixys belliana* (Reptilia) and *Genetta tigrina aequatorialis* (Mammalia). It is suggested that one at least of these hosts may be accidental, but there is no evidence to indicate which one.

E.M.S.

160—Riforma Medica.

a. BOLOGNESI, G., 1939.—“Rottura spontanea di una ciste idatidea epatica nello stomaco.” 55 (15), 559-562, 565.

b. SPEZIALE, V. & BERGER, R., 1939.—“Echinococcosi policistica secondaria locale del polmone.” 55 (20), 759-760, 763-764.

161—Rivista di Parassitologia.

a. BISBOCCI, G., 1939.—“Di un caso di parassitismo da *Dirofilaria immitis* Leidy in una *Phoca vitulina*.” 3 (2), 113-115.

b. GIOVANNOLA, A., 1939.—“Ospiti intermedi dello *Schistosoma mansoni* in Africa Orientale Italiana.” 3 (2), 139-144.

c. STARCOFF, O., 1939.—“Morfologia e significato dei cosiddetti corpuscoli calcarei nei cestodi.” 3 (2), 145-152.

(161a) Bisbocci found, in the right ventricle of the heart of a common seal (*Phoca vitulina*) which died in the Turin aquarium, 4 nematodes which he has identified as *Dirofilaria immitis*. He has found one other such record for this host, that of Joest (1925).

B.G.P.

(161b) Giovannola gives a brief description of two *Schistosoma mansoni* intermediaries in Italian East Africa: *Planorbis adowensis* incriminated by Giovannola in Abyssinia in 1938 [title in Helm. Abs., Vol. VII, No. 352s, (ix)] and *P. ruppellii*, now identified from material found in Eritrea by Satta in 1936 [title in Helm. Abs., Vol. V, No. 97a]. A construction for measuring the “angle of aperture” of Planorbis shells is described.

B.G.P.

(161c) Starcoff has studied histologically the calcareous corpuscles of *Hymenolepis nana* and *Cysticercus pisiformis*, using selective stains (purpurin, silver nitrate). The corpuscles have a definite structure, with a nucleus of dense calcification which extends when the host is subjected to calcium therapy.

B.G.P.

162—Rocky Mountain Medical Journal.

*a. MUGRAGE, E. R., 1939.—“Common animal parasites transmissible to man.” 36, 162-164.

163—Science.

a. CAMPBELL, D. H., 1939.—“The effect of sex hormones on the normal resistance of rats to *Cysticercus crassicollis*.” 89 (2314), 415-416.

* Original not available for checking or abstracting.

(163a) After treating virgin female rats with male sex hormone, Campbell finds their resistance to infection with *Cysticercus crassicollis* is considerably lowered, whereas males treated with female sex hormone had their resistance slightly increased. P.A.C.

164—Scottish Journal of Agriculture.

- a. ROBERTSON, D., 1939.—“Varietal resistance of potatoes to the effects of eelworm infestation.” **22** (2), 172-174.
- b. ROBERTSON, D., 1939.—“Helminths from hill sheep.” **22** (3), 231-235.

(164a) Robertson has grown several varieties of potatoes in soil infected with the potato strain of *Heterodera schachtii* at Kirton and at Craibstone. In both cases Epicure gave the highest yield amongst the early varieties, followed by Duke of York and Sharpe's Express: amongst the late varieties the highest yield came from Kerr's Pink, followed by Golden Wonder. On the Craibstone ground in 1930, before it became infected with eelworm, differences in yield between the early varieties were less marked than in 1938. Cysts on the roots of Epicure were as numerous as on the other varieties; it is therefore suggested that a strain of Epicure may have been found which can withstand attack by the eelworm. M.T.F.

(164b) Robertson studied the helminth infestations in lambs and ewes from hill farms in Scotland and found that the incidence of intestinal parasites was surprisingly high. He suggests that this may be due to the tendency for hill sheep to graze over limited areas throughout the summer and to the practice of wintering ewes on lowland pastures. D.O.M.

165—Skandinavisk Veterinär-Tidskrift.

- a. KOFFMAN, M., 1939.—“Bidrag till kännedomen om parasiter hos husdjur och vilt i Sverige.” **29** (5), 509-585.

(165a) Illustrating his paper with numerous microphotographs, Koffman describes the endo- and ectoparasites found in Sweden in fowl, fox, cat, dog, nutria, rabbit, hare, and guinea-pig. B.G.P.

166—South African Medical Journal.

- a. SHAPIRO, H. L., 1939.—“A case of filarial lymphatic obstruction.” **13** (11), 405-406.

167—Stain Technology.

- a. GOWER, W. C., 1939.—“Modified stain and procedure for trematodes.” **14** (1), 31-32.

(167a) Gower recommends the following technique for staining trematodes as giving sharp differentiation of the principal organs. Dissolve by boiling 10 g. of carmine in 100 c.c. of 45% acetic acid, and filter. Collect the residue on the filter paper and dry carefully. Make up the stain as follows: 1 g. dried residue, 10 g. alum, 200 c.c. distilled water. Dissolve by heat, cool, and add a crystal or two of thymol as preservative. Stain for 12 to 36 hours, wash in water, take up to 70% alcohol and destain in chlorinated 70% alcohol by the method of Mayer. Dehydrate further, clear in cedar-wood oil and mount in balsam. T.G.

168—*Taiwan Igakkai Zassi.*

- a. KO, E., 1939.—“*Paragonimus westermanii* abscess in lower abdominal wall.” 38 (4), 539-543. [In Japanese: English summary p. 544.]
- b. YOKOGAWA, S. & YUMOTO, Y., 1939.—“Investigations on the incidence of filariasis in Isigaki Island, Okinawa Prefecture.” 38 (4), 545-551. [In Japanese: English summary p. 551.]
- c. YOKOGAWA, S. & RO, M., 1939.—“Studies on the treatment of paragonimiasis. Part I. Experimental treatment and efficacy on dogs harbouring lung flukes (*Paragonimus westermanii*).” 38 (4), 552-565. [In Japanese: English summary p. 565.]
- d. KŌ, T., 1939.—“Abermals über einen Fall von Ausschlüpfung der Askariden durch die Mitte der Nabelgrube hindurch.” 38 (5), 725-727. [In Japanese: German summary p. 728.]

(168c) A combination of prontosil and emetine hydrochloride injected intramuscularly brings about a rapid and radical cure of paragonimiasis in dogs. Details are promised later.

R.T.L.

169—*Technical Bulletin. United States Department of Agriculture.*

- a. WEHR, E. E., 1939.—“Studies on the development of the pigeon capillarid, *Capillaria columbae*.” No. 679, 19 pp.

(169a) Wehr describes the adult and the developmental stages of *Capillaria columbae*. Heavy infestations with this worm gave rise to pronounced symptoms of emaciation, diarrhoea and listlessness, often followed by death. It causes much destruction of the mucosa with sloughing of the mucous membrane. The eggs are very resistant to cold, particularly before embryonation, but drying of partly embryonated eggs quickly kills them. Chickens, turkeys and pigeons are all susceptible to infection with *C. columbae*.

P.A.C.

170—*Tierärztliche Rundschau.*

- a. AYGÜN, S. T. & BASKAYA, H., 1939.—“Anwendung der Allergie-Reaktion bei der Bekämpfung der Distomatose.” 45 (20), 379-382.

(170a) Using ether extracts of *Fasciola hepatica*, Aygün & Baskaya have obtained positive intradermal tests in sheep and goats harbouring the parasite. A wheal begins to appear quickly and reaches a diameter of 1 to 1.2 cm. in from 60 to 90 minutes after injection.

P.A.C.

171—*Transactions of the American Microscopical Society.*

- a. DOBROVOLNY, C. G., 1939.—“Life history of *Plagioporus sinitsini* Mueller and embryology of new corylocercous cercariae (Trematoda).” 58 (2), 121-155.
- b. NIGRELLI, R. F., 1939.—“*Didymocystis coatesi*, a new monostome from the eye muscles of the wahoo, *Acanthocybium solandri* (C. & V.).” 58 (2), 170-178.
- c. GOODCHILD, C. G., 1939.—“*Cercaria conica* n. sp. from the clam *Pisidium abditum* Haldeman.” 58 (2), 179-184.
- d. FOSTER, A. O., 1939.—“Some helminths of the woolly opossum in Panama.” 58 (2), 185-198.
- e. STEELMAN, G. M., 1939.—“A new macrocercous cercaria.” 58 (3), 258-263.
- f. HILL, W. C., 1939.—“*Physaloptera ackerti* n. sp. (Nematoda).” 58 (3), 285-291.

(171a) Dobrovolny has shown that the snail *Goniobasis livescens* can serve as both first and second intermediate host in the life cycle of *Plagioporus sinitsini*, a trematode parasite of fish in Huron River. The cercariae are stumpy tailed and instead of leaving the sporocyst, encyst inside it. Then these sporocysts themselves emerge from the snail. He describes the development of the excretory and reproductive systems in detail. *Cercaria diocrenalis* n. sp. and *C. triocrenalis* n. sp., both of which were recovered from *Goniobasis livescens*, are described. He was not able to associate them with any known adult.

P.A.C.

(171d) Foster describes several new helminths which he has recovered from the woolly opossum (*Philander laniger pallidus*) in Panama. *Cortiamosoides* n. g., a parasite of the abdominal cavity, is a filarial worm related to the genus *Litomosoides* but can be distinguished by the structure of the buccal cavity which is heavily chitinised and is continuous with a narrow vestibule. Moreover, it possesses conical processes posteriorly and the vulva is anterior. He describes the type species *C. philanderi* n. sp. *Trichuris marsupialis* n. sp. was recovered from the large intestine. It differs from *T. minuta* and *T. peramericana* from this host in the relative proportions of the genitalia. *Subulura lanigeri* n. sp. shows characters intermediate between the other two species of *Subulura* which have been recovered from this host. *Opisthorchis pricei* n. sp. from the bile ducts can be recognised by the presence of divided vitellaria which, however, show a break in the region of the ovary in their great extension posteriad. The ovary is greatly lobulated. *Platynosoma allentoshi* n. sp., also recovered from the bile ducts, is the first species of this genus to be found in marsupials. It is a small worm with extensive vitellaria. He also has found *Macielia macielii*, *Aspidodera raillieti*, *Physaloptera turgida*, *Gnathostoma didelphis*, *Oochoristica bivittata* and *Hamanniella microcephala*. A key to the species of *Aspidodera* has been worked out.

P.A.C.

(171e) Steelman describes a new macrocercous cercaria, *C. coelocerca*, from clams, *Musculium transversum texanum* Sterki, in Oklahoma. The infection rate was 0.9% (4 out of 412). The new species is differentiated in detail from *C. sphaerocerca* which it resembles closely.

J.J.C.B.

(171f) Hill describes a new *Physaloptera*, *P. ackerti*, from the stomach of the opossum, *Didelphis virginiana virginiana* Kerr, in Oklahoma. The worms were present in 9 opossums which were examined, and varied in number from 8 to 141. The new species is differentiated in detail from *P. turgida*, apparently its nearest relative, and also from the other members of the polydelphous group to which it belongs.

J.J.C.B.

172—Transactions of the Royal Society of Tropical Medicine and Hygiene.

- HAWKING, F., 1939.—“A new focus of onchocerciasis occurring in Kenya Colony.” 33 (1), 95-106.
- HOFF, H. & SHABY, J. A., 1939.—“Nervous and mental manifestations of bilharziasis and their treatment.” 33 (1), 107-111.

(172a) Onchocerciasis has been found in 38% of the natives around Kakamega in the Western part of Kenya. Subcutaneous nodules were

relatively uncommon and although eye symptoms were common in the district they were not definitely shown to be due to *Onchocerca* embryos.

R.T.L.

173—Tropical Agriculture.

a. HUTSON, L. R., 1939.—“A list of parasites recovered from poultry in Antigua, B.W.I.” 16 (5), p. 108.

(173a) *Raillietina tetragona* and *Oxyspirura mansoni* are the most common helminths of poultry in Antigua. The other species mentioned are *Ascaridia galli*, *Tetrameris* sp. and *Brachylaemus commutatus*. R.T.L.

174—Veterinary Journal.

a. DATTA, S., 1939.—“Microfilarial pityriasis in equines (*Lichen tropicus*).” 95 (6), 213-222.

(174a) In a general article Datta discusses the equine disease *Lichen tropicus*. The nomenclature of the disease, its geographical distribution and seasonal incidence are described. The various theories of its etiology are recorded and clinical symptoms, pathological histology and treatment are dealt with in detail. A description of the microfilaria associated with the disease is provided and its location in the skin is illustrated by photomicrographs. The true identity of this microfilaria remains undetermined but the recent discovery of *Onchocerca cervicalis* in horses in India is regarded as suggestive. Microfilarial (or filarial) pityriasis is considered to be the most appropriate designation for the condition. J.J.C.B.

175—Veterinary Record.

a. PRIME, T. F., 1939.—“Carbon tetrachloride poisoning in a dog.” 51 (19), p. 613.

b. ROBERTSON, D., 1939.—“Intestinal parasites of Shetland ponies in the north of Scotland.” 51 (25), 779-781.

(175b) Robertson gives an outline of the history and management of a herd of young Shetland ponies in the north of Scotland which became heavily parasitized. During the first year under review there was a mortality of 8 out of 45 ponies. Control was effected by movement on to a clean pasture and by giving an extra allowance of hay and bruised oats. During the second year supplementary feeding alone was relied on and proved effective in controlling the losses and maintaining the health of the herd. The parasites obtained from the alimentary canal of the ponies are enumerated and remarks as to the numbers present and frequency of occurrence are included. J.W.G.L.

176—Zeitschrift Deutscher Falkenorden.

a. WETZEL, R. & ENIGK, K., 1939.—“Beobachtungen über parasitäre Erkrankungen der Falken und Vorschläge zu ihrer Bekämpfung.” No. 1, pp. 24-33.

(176a) Wetzl & Enigk discuss the following parasites of falcons, showing how control measures must be adapted to the life-cycle where this

is known. *Capillaria contorta*, from the small intestine, can be responsible for serious disease; it is helpful if the perching block, instead of rising direct from the soil, is surrounded by wooden planks which can be kept clean. *Cladotaenia cylindracea*, which may reach a length of 60 cm., has its cysticercal stage in the liver of small rodents, as the authors confirmed by feeding segments to white mice. *Strigea falconis*, in the hind-gut, is rarely found and seems not to be of pathogenic importance. In the case of this fluke, and also of *Serratospiculum tendo* from the body cavity, the life-histories are unknown. Spirurid larvae, protozoa and ectoparasites are also briefly mentioned.

B.G.P.

177—Zeitschrift für Fleisch- und Milchhygiene.

- a. MAYER, K., 1939.—“Auswertung eines Trichinenfundes beim Schwein.” **49** (17), p. 334.
- b. SÖNTGEN, K., 1939.—“Zur Frage der Fuchstrichinose.” **49** (17), 334-336.

(177a) Mayer records the first finding of encysted *Trichinella* out of 100,000 pigs slaughtered at Heidelberg since the introduction of *Trichinella* inspection in 1934. Comparative examinations showed larvae to be most abundant in the diaphragm, “coronal” meat, and masseter. It is suggested that the masseter should be examined as a routine substitute muscle. Examination of the meat a few days after slaughter showed that the cysts were more difficult to see than in fresh meat owing to degenerative changes, and special care is urged in the examination of such old meat. V.D.V.S.

(177b) By feeding young pigs with trichinous fox meat, Söntgen shows that *Trichinella* from the fox is capable of developing in pigs, though in foxes the cyst is round, and in the pig lemon-shaped. Examination of 521 field mice from the district of Dillenburg, where wild foxes show about a 9% infection with *Trichinella*, revealed no positive cases and it is suggested that the field mouse plays no part in transmitting trichinosis to foxes: infection is probably due to the custom of hunters in this district of using fox remains as a bait for catching foxes. V.D.V.S.

178—Zeitschrift für Parasitenkunde.

- a. DOSSE, G., 1939.—“Über einige Nematoden aus *Cyclura carinata*, R. Harlan 1824. (*Macracris monhystera* v. Linstow 1902; *Travassozolaimus travassosi* Vigueras 1938; *Mammillomacracris cyclurae* n. g., n. sp.).” **10** (6), 694-703.
- b. WUNDER, W., 1939.—“Das jahreszeitliche Auftreten des Bandwurmes (*Caryophyllaeus laticeps* Pall. im Darm des Karpfens (*Cyprinus carpio* L.).” **10** (6), 704-713.
- c. JANICKI, M. J., 1939.—“Darmtreponematosi bei einem Parasit des Hundes (*Diectophyme renale*) Goeze 1782.” **10** (6), 714-718.
- d. STUNKARD, H. W., 1939.—“Determination of species in the trematode genus *Himasthla*.” **10** (6), 719-721.
- e. STUNKARD, H. W., 1939.—“The life cycle of the rabbit cestode, *Citto-taenia ctenoides*.” **10** (6), 753-754.
- f. KAHL, W., 1939.—“Nematoden in Seefischen. III. Statistische Erhebungen über den Nematodenbefall von Seefischen.” **11** (1), 16-41.
- g. SCHMIDT-RIES, H., 1939.—“Bemerkungen zur Biologie und Systematik der Lungenwürmer des Tümmlers (*Phocaena phocaena* Linné).” **11** (1), 95-112.

(178a) Dealing with parasites of *Cyclura carinata* which he has examined, Dosse confirms that Linstow's *Oxyuris monhystera* is properly to be placed in the genus *Macracis* which Gedoelst erected for it. He corrects several details of anatomy in this species and reduces *Oxyuris microtyphon* Smith, 1906 to synonymy with it. Caballero's *Ozolaimus ctenosauri* (1938) is transferred to *Macracis*. The finding of *Travassozolaimus travassosi* in the same host constitutes a new host record. *Mammillomacracis cyclurae* n. g., n. sp. is close to *Macracis* but has 3 lips instead of 2. B.G.P.

(178b) From the examination of 1,000 carp at different times of the year Wunder shows that the fish are infected with *Caryophyllaeus laticeps* only between April and August. Incidence and intensity are both maximal in May. Wunder links this with the food habits of the fish and the ecology of the intermediary, *Tubifex*. Control is possible by the use of lime. B.G.P.

(178c) Janicki describes a *Treponema* infection in the intestinal contents and intestinal epithelium of *Diocophyllum renale*. The spirochaetes, which were mostly 8 to 13 μ long with 5 to 8 spirals, may possibly have been originally parasites of the dog. B.G.P.

(178d) Stunkard holds that the problem of the confused systematics of species of *Himasthla* is only to be solved by the experimental measurement of specific variation. B.G.P.

(178e) In a preliminary note Stunkard reports that free-living mites, collected from a district where wild rabbits are heavily infected with tape-worms, yielded cysticercoids which grew to *Cittotaenia ctenoides* when fed to domestic rabbits under controlled conditions. Mites of 3 species have been infected experimentally with eggs of the same worm. B.G.P.

(178g) From an examination of new material, Schmidt-Ries gives an illustrated redescription of the following lungworms from *Phocaena phocaena* from the Baltic: *Pseudalius inflexus*, *Stenurus minor*, *Torynurus bicostatus* (which he regards as distinct from *T. convolutus*), and *Halocercus inflexocaudatus* (with which *P. tumidus* is synonymous). The complex systematics of this group demand adequate preparation of material, and Schmidt-Ries recommends fixation in strong iodine-KI solution and preservation in glycerine-alcohol. These parasites appear able to cause disease and even death in affected porpoises. B.G.P.

179—Zoologischer Anzeiger.

a. PAESLER, F., 1939.—“Massenvorkommen eines neuen Nematoden *Diplogaster schneideri* n. sp. im braunen Schleimfluss einer Rosskastanie.” 126 (5/6), 138-140.

(179a) Paesler describes and figures a new saprophagous nematode *Diplogaster schneideri* n. sp. considerable numbers of which were found in the slime-flux of a horse chestnut tree in the vicinity of Königsberg, Germany. The male has bursal wings surrounding the tip of the tail. T.G.

180—Züchter.

a. GOFFART, H., 1939.—“Resistenzprüfung von Kartoffelsorten gegenüber *Heterodera schachtii* Schmidt.” 11 (5), 123-130.

(180a) Goffart has tested a large number of varieties of potato for resistance to attack by *H. schachtii*. As measured by “cyst-burden” and yield, many varieties showed variation in attack in different years; there was no direct relationship between attack and growth of the plant. Most early varieties gave very low yields. The limited tolerance to attack shown by a few varieties may be due to the late maturing of these varieties. Of 22 English varieties tested, Duke of York, Epicure and King George were least affected and Eclipse suffered most. These results are the opposite of those reported by O’Brien & Prentice, and Goffart concludes that resistance is considerably dependent on local conditions. He considers that the presence of a resistance factor is not proved.

M.T.F.

NON-PERIODICAL LITERATURE.

181—BAYLIS, H. A., 1939.—“The fauna of British India, including Ceylon and Burma. Nematoda. Vol. II. (Filarioidea, Dioctophymoidea and Trichinelloidea).” London, xxviii + 274 pp.

182—CARPENTIER, G., 1939.—“Parasites et maladies parasitaires des équidés domestiques à l’usage des vétérinaires métropolitains et coloniaux.” Paris, xii + 524 pp.

183—KIENSCHERF, M., 1939.—“Befall thüringischer Wildkaninchen mit Entoparasiten und die Beziehungen zu geologisch-klimatischen Verhältnissen des Herkunftsgebietes.” Inaugural-Dissertation, Berlin, 42 pp.

Kienscherf reports on the coccidia and helminths from 144 wild rabbits mostly from districts south-east of the river Ilm in Thuringia. The livers were not examined. The principal finds were *Cittotaenia* (79%), *Cysticercus pisiformis* (53%), *Passalurus ambiguus* (50%), *Trichostrongylus retortaeformis* (83%), *Graphidium strigosum* (96%), *Protostrongylus commutatus* (21%), and *Trichuris leporis* (4%). The area is relatively dry, with considerable chalk.

B.G.P.

184—WATERSTON, J. M., 1939.—“Annotated list of diseases of cultivated plants in Bermuda.” Department of Agriculture, Hamilton, Bermuda, x + 38 pp.

In a list, mainly composed of fungal diseases of cultivated plants occurring in Bermuda, Waterston reports *Heterodera marioni* on *Apium graveolens* (celery), *Cucumis sativus* (cucumber) and *Daucus Carota* (carrot), and *Aphelenchoides ritzema-bosi* on *Chrysanthemum morifolium* (garden chrysanthemum).

T.G.